The Mining Journal

RAILWAY AND COMMERCIAL GAZETTE.

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

No. 672.---Vol. XVIII. LONDON, SATURDAY, JULY 8, 1848. [Price 6d.

VALUABLE TIN MINE, IN ST. JUST, FOR SALE, BY PUBLIC AUCTION.—TO BE SOLD, in one lot, at the THREE TUNS HOTEL, PENZANCE, on Tuesday, the 18th day of July next, all that

VALUABLE MINE SETT,

called WHEAL BOSCEAN, with all MACHINERY, MATERIALS, &c., thereunto belonging, all in excellent working order, the same consisting of

1 36-in. cylinder DRAFT-ENGINE, with boiler, complete, on the newest construction.
1 24-in. single WINDING-ENGINE, boiler, fly-wheel, cage, &c., complete.
375 Fathoms FLAT-RODS—about
200 Fathoms PITWORK, varying from 4 inches to 9 inches, together with every requisite for working the mine.

This mine, which is in full course of working, and has produced considerable profit to the adventurers, is only offered for sale by the present shareholders in consequence of the death and bankruptcy of some of their co-partners; and is situate in one of the best parishes in the county of Cornwall for the produce of tin—there being, too, immediately adjoining the mine, a powerful stream of water and stamps to return the tin ore at an exceedingly small expense. J. B. MERIFIELD, Auctioneer.

Penzance, June 29, 1848. *The Sale to commence at Three p.m.*

VALUABLE COLLIERY PLANT—At EVENWOOD and GORDON, near WEST AUCKLAND, in the county of DURHAM.

Mr. GEORGE HARDCASTLE is instructed to SELL, BY AUCTION, on Monday, the 24th July, 1848, and following days, the whole of the

VALUABLE COLLIERY PLANT:

ENGINES, RAILWAYS, WAGGONS, TRAM-PLATES, PUMPS, SCREWS, APPARATUS, Storehouse stock, contents of joiners' and blacksmiths' shops, metal, iron, timber, &c., and all the other articles used in and about a large colliery establishment.

The Sale to commence at Ten for Eleven each day.

Refreshments for purchasers.

Catalogues on the 12th July.—Apply to Wm. Brogden, Esq., Stockton; Mr. Barker, Coxhoe; or to the auctioneer, Newcastle and Sunderland.

EXTENSIVE IRON-WORKS FOR SALE. (UPSET PRICE REDUCED).

TO BE SOLD, BY PUBLIC ROUP, within the Royal Exchange Sale Rooms, Glasgow, upon Wednesday, the 12th day of July next, at Two o'clock in the afternoon (if not previously disposed of by private bargain),

THE BLAIR IRON-WORKS,

Belonging to the Ayrshire Iron Co., situated in the parish of DALRY and county of AYR, together with the adjoining valuable MINERAL FIELDS of IRONSTONE, COAL, LIMESTONE, FIRE-CLAY, &c., held by the company under favourable leases.

The works, which have been recently erected at an immense cost, consist of two blowing engines, five blast-furnaces, workmen's houses, steam-engines for working the minerals, together with utensils at the pits, furnaces, &c., all in working order.

Also, the MALLEABLE IRON-WORKS, so far as erected—all as particularly described in former advertisements.

For further particulars, apply to Mr. Brown, at the company's office, 113, St. Vincent-street, Glasgow; Messrs. M'Clelland and M'Kenzie, accountants, Glasgow; Messrs. Montgomerie and Fleming, writers there; or to Messrs. Gibson-Craigs, Dalziel, and Brodie, W.S., Edinburgh.

N.B.—The purchaser of these works has an opportunity of, at the same time, acquiring the Mansion-house, Lands, and Minerals of Pitcon, immediately adjoining (the latter being part of those above referred to, as held in lease by the company), which are advertised to be sold at the same time and place.—Glasgow, June 12, 1848.

VALUABLE ESTATE AND MINERAL FIELD, IN AYRSHIRE, FOR SALE.

TO BE SOLD, BY PUBLIC ROUP, within the Royal Exchange Sale Rooms, Queen-street, Glasgow, upon Wednesday, the 12th day of July next, at Two o'clock in the afternoon (unless previously disposed of by private bargain),

ALL and WHOLE the LANDS and ESTATE of PITCON, extending to about 216 acres, imperial measure, as described in former advertisements, with the MANSION HOUSE OF PITCON, and OFFICES and GARDEN, &c., thereto belonging; and the whole MINERALS and METALS in the said estate excepting these eight acres, or thereby, Scotch measure, now belonging to the Glengarnock Iron Company, of their presently working seam of ironstone in the said lands of Picton; and, also, excepting the Pitcon Railway and branches, in so far as the same are within, and pass through, the said lands.

The MANSION-HOUSE and OFFICES are in good repair, and the garden, shrubbery, and pleasure grounds, are in excellent order, and the whole are inclosed from the other portions of the estate, by a substantially built wall.

The LANDS let under lease (exclusive of those attached to the mansion-house), are held by a respectable tenant, at a surface rent of 490*l*. These lands extend to about 140 acres Scotch, or thereby, and the farm steading upon them is substantially built.

The MINERALS comprise the most valuable description of ironstone, extend to about 140 acres, still unwrought, and are at present leased to the Ayrshire Iron Company, at a fixed rent of £1000 sterling per annum, or at a certain lordship, in the option of the landlord. Upon a moderate calculation, the black-band yields about 3000 tons calcined ironstone to the imperial acre. There are several seams of coal and other minerals in the course of being wrought in the lands.

The public and parish burdens are small. This property is in the immediate neighbourhood of, and connected by railway communication with, the Ayrshire Iron Company's works (the Blair Iron-Works), which, along with the benefit of the mineral lease of Pitcon, are advertised to be sold at the same time and place with this estate.

For further particulars, application may be made to M'Clelland and M'Kenzie, accountants, 128, Ingram-street, Glasgow; Robert M'Cowan, accountant, 17, Gordon-street, there; Knox and Findlay, writers, 29, St. Vincent-place, there; James M'Cosh, writer in Dairy; or to Douglas and Ranken, writers, 81, St. George's place, Glasgow, in whose hands the articles of roup and title-deeds, and a plan of the estate, and mineral workings, may be seen.

Mr. M'Cosh will give directions for the lands being pointed out, and the mansion house, offices, and garden being shown to inquirers. BOGLE and Co., Auctioneers.

Glasgow, June 19, 1848.

CLACKMANNAN COAL-WORKS FOR SALE.—TO BE SOLD, BY PRIVATE CONTRACT, the LEASE of the going

COLLIERY OF CLACKMANNAN,

near the town of Clackmannan, on the FRITH OF FORTH, with the whole MACHINERY, ENGINES, WAGGONS, UTENSILS, &c., on the works.

The COLLIERY is well situated for commanding an extensive sale of coal and ironstone, both by land and shipping. The Stirling and Dunfermline Railway passes through the entire fields, having a station at the works, and, when completed, will afford direct access to the Forth Iron-Works on the east, and to Stirling, Crieff, and Perth, and the Vales of the Allan and Earn, by the Scottish Central Railway on the west. There is a short railway leading from the pits direct to the Devon Iron-Works, and also a railway belonging to the works, leading from the various pits to Clackmannan Pow, the colliery shipping station on the Frith of Forth, excellently adapted for the shipping trade.—Whether by land or water, greater facilities for an extensive business can seldom be obtained. The average out-put per annum, for the last seven years, has been upwards of 60,000 tons; and it is believed that, under proper management, an active capitalist might double that amount.

The COAL-FIELDS, which are almost inexhaustible, consist of various seams—chiefly SPLINT and CHERRY; the former of first-rate quality for making iron, and for all steam purposes—the latter being of well-known superior quality for household purposes, and both bringing high prices in the market. The seams are of very moderate depth, and, from their thickness, are all easily wrought.

There are also BANDS of superior IRONSTONE above several of the seams of coal, which can be wrought to great advantage along with the coal; besides, one of the seams contains a stratum of BLACK-BAND IRONSTONE, averaging about 6 in. in thickness.

The lease has 23 years to run, and the rent, or royalty, is moderate.

To enterprising capitalists a more eligible investment is not to be met with.

Full particulars, as to the nature and extent of the coal-fields and state of the works, &c., will be obtained on application to John Williamson, Esq., mining engineer, Fingal-place, Edinburgh; or to Mr. James R. Wilson or Mr. Lyell, at the works.

Sealed offers to be lodged with John Donald, writer, Alloa, on or before Saturday, the 22d day of July next, at Twelve o'clock noon.

Alloa, June 10, 1848.

EXTENSIVE AND VALUABLE MINERAL PROPERTY AND IRON-WORKS FOR SALE.—TO BE SOLD, BY PRIVATE CONTRACT,

THE VENALLT COAL AND IRON-WORKS,

Situate on the south side of the RIVER NEATH, GLAMORGANSHIRE, about 8 miles from the port of Neath, and 14 from the port of Swansea, with all the necessary appendages for carrying on the smelting of iron, and an extensive shipping trade of stone coal and stone coal culm.

The property comprises long leases of coal and ironstone, extending over about 3000 acres of land, in a ring fence, which are taken on favourable terms. The coal is anthracite, and three veins of an aggregate thickness of about 25 feet, are effectually opened by level, for the supply of 100 to 200 tons per day.

The ironstone veins are abundant and rich, and sufficiently opened by level to yield an ample supply for three furnaces. There is also valuable black-band extending over a large acreage.

The works consist of an engine-house for a pair of engines, one 50-horse high-pressure blowing-engine, two blast-furnaces, with all the necessary hot-blast stoves, casting-houses, foundry, finery, &c.

The works and colliery are in operation, and any persons who may be desirous of purchasing, will be treated with on liberal terms.

Reports recently made on the property, by Messrs. John Southan, of Bilston, and W. P. Struvé, of Swansea, may be seen on application to Messrs. Jevons and Wood, Neath; Messrs. Llewellyn and Randall, solicitors, Neath; or to Messrs. Rowland, Hacon, and Rowland, solicitors, 38, Threadneedle-street, London.

HERODSCOOMBE MINE.—FOR SALE, BY PRIVATE CONTRACT, HERODSCOOMBE MINE MATERIALS, either together or in separate lots, consisting of—

3 9-feet 7-inch pumps	1 Balance-bob
1 9-feet 6-inch working barrel	1 Shaft-bob
1 6-feet 6-inch doorpiece	2 Traveller-bobs
1 9-feet 6-inch windbore	Horizontal wood sweep-rod
1 Horse-whim	30 Fathoms 9-inch square iron-rods
2 4-feet whim-shieves	2 Winze kibbies
2 Horse kibbies	1 Large stool—and

A 16-inch cylinder DIRECT DOUBLE-ACTING ROTARY STEAM-ENGINE and BOILER, complete, with pumping and drawing apparatus attached.

This engine is in excellent condition—was erected new, about 18 months since, and the rotary and pumping apparatus about nine months, from the drawings, and under the superintendence of Messrs. Hocking and Loam, engineers; and, for cheapness of construction, efficiency, and economy, has given the most entire satisfaction.

Parties in want of an engine to sink 40 or 50 fathoms for trial, will find this one well adapted for that purpose; and should the trial prove satisfactory, and a larger pumping-engine be required, this can be applied wholly to drawing and crushing, with no expense, as her construction will admit of her being first placed in a proper position, at a distance from the shaft.

All particulars may be had of Mr. Matthew Loam, engineer, Liskeard, to whom all tenders, stating the highest prices, must be addressed.

TO BE SOLD, OR LET, a valuable COAL MINE, in the township of GREAT HARWOOD, in the county of Lancaster. The mine has been recently proved, and found to be 3 feet 2 inches in thickness, and of excellent quality; it is commonly called, or known, by the name of the UPPER MOUNTAIN MINE, and extends over about 1000 statute acres, which will be divided into suitable lots.

The property is situated between the towns of Blackburn and Clitheroe, and is intersected by a branch of the East Lancashire Railway.

A section of the borings may be seen, by applying to Mr. Boosie, Rufford-hall, Ormskirk; or to Mr. Whittle, coal viewer, Charnock Richard, Chorley—to either of whom proposals may be sent.

STEAM-ENGINES.—From 3 to 20-horse power ENGINES ALWAYS IN STOCK.

Apply to Mr. CAPPER, Engine-Maker and Founder, BIRMINGHAM.

Price—£12 to £16; with boiler, £22 per horse.

CORNWALL NEW MINING COMPANY.

Capital £100,000, divided into 20,000 shares, of £5 each.

Incorporated in pursuance of the Statute of 7 and 8 Victoria, cap. 110.

Bankers—London and County Bank, 21, Lombard-street.

The directors beg to announce, that they are NOW ALLOTING the SHARES in the above company; and, from the number already disposed of, they request parties desiring to take shares to make early application. Those to whom allotments have been made, are requested to pay their deposits into the bankers of the company, as above.

Office, 17, Essex-street, Strand. GEORGE LOCKWOOD, Secretary.

LONDONDERRY MINING COMPANY OF NOVA SCOTIA.—Capital, £80,000, in 2000 shares, of £40 each.

It is provided that 21 days' Notice be given of each call, and that no call exceed 20 per cent., and that successive calls be not made at less than six months, and that the aggregate amount of calls, made in any one year, do not exceed 40 per cent.

Incorporated by Act of the Provincial Parliament.

The following directors have been named in the Act (together with other persons) as constituting the corporation; and they are to continue in office until superseded, or confirmed, by a vote of the London shareholders—viz.:

The Hon. W. A. BLACK,
The Hon. J. E. FAIRBANKS, } Members of the Legislative Council.
The Hon. ALEX. KEITH,
J. W. JOHNSTON, Esq., Advocate-General.

This company has been formed for the purpose of WORKING a MINE, recently discovered, of IRON ORE of superior quality and richness, situated in the province of Nova Scotia, about 70 miles from Halifax, and about seven miles from a good shipping port, in the Bay of Fundy.

This extraordinary deposit of specular iron ore has been surveyed by Dr. Gesner and J. W. Dawson, Esq., provincial geologists. Extracts from their reports are appended to the prospectus, and other unquestionable references.

"*To John Ross, Esq., of Truro, Nova Scotia.*

"Dear Sir,—It gives me great pleasure, in reply to your request, to express the high opinion I entertain of the talents, acquirements, sagacity, and high qualifications of Mr. J. W. Dawson, of Picton, as a mineral surveyor and geologist, of which I had an opportunity of judging during an examination, which we made together, of several parts of Nova Scotia, and, among others, the district of the Folley river—to the valuable ores of which you are now directing public attention.

I may further add, that Mr. Dawson's name is now well-known to the Geological Society of London by several Memoirs on the Geology of Nova Scotia, accompanied by maps and sections, published in their *Proceedings* and *Quarterly Journal*.

"I have the honour to be, dear Sir, yours, &c.,

"11, Harley-street, May 2, 1848." (Signed) "CHARLES LYELL.

Application for shares will be received by Mr. Charles Walton, of the firm of Charles Walton and Sons, Newman's-court, 73, Cornhill.

One-third of the capital stock of the company is reserved for the colonial shareholders—the remaining 1333 shares are offered to capitalists in London, until the 20th inst.

Printed forms of application may be obtained with the prospectuses, where the Act may be seen.—Prospectuses may be obtained, and specimens of the ore seen, by applying to Messrs. Royston and Brown, 40, Old Broad-street; Messrs. Charles Watson and Sons, 73, Cornhill; or on application to Mr. Henry English, 25, Fleet-street.—Prospectuses can also be had at the office of the *Mining Journal*, 26, Fleet-street, London.

EAST WHEAL FORTUNE MINE.—At a Meeting of adventurers, duly convened this 28th day of June, 1848, at the Red Lion Hotel, Truro, pursuant to notice, J. CAREY, Esq., in the chair,

Present—D. L. Williams, Esq., Captains Gray and Woolcock, Messrs. McFadgeon, Rooke, Hallam, and Hocking,

The reports of Captains Gray, Verran, and Woolcock, were read, whereupon the following resolutions were carried unanimously:—

Resolved,—That the meeting of adventurers in East Wheal Fortune Mine, held on the 28th of January, 1848, be declared irregular, and cancelled, in consequence of the non-attendance of a sufficient number of the adventurers, and that the resolutions then passed be annulled, and of no effect.

Resolved,—That Capt. Robert Woolcock be appointed the resident agent of the mine, at a salary of £3 3s. per month—to commence on the 1st of July next—and that Mr. Richard Ivey Hocking be appointed the purser, or accountant, of the mine—he agreeing to take no salary until the copper lode is cut, and to make no charge, excepting for stationery.

Resolved,—That the operations of the mine having, in a great measure, been suspended for some time past, Capt. Woolcock be paid £4, in remuneration for past services; and Mr. Hocking be paid £3, in remuneration for past services—and that they shall not be entitled to any other sum as salary, or arrears of salary, for any past period, and that Mr. Hocking's account of a debt of £23 10s. 4½d. against the mine, be passed, and paid.

Resolved,—That Mr. Carey and Mr. D. Lloyd Williams be appointed the financial committee, to examine and pass all accounts monthly, and sign all orders for payment of all moneys for carrying on the working of the mine, with liberty from time to time to add to their number; and that they meet once every month in London to examine and pass the accounts.

Resolved,—That a banking account be opened with one of the London banks, in the names of the financial committee, on account of the East Wheal Fortune adventurers; and that such account shall not at any time be over drawn.

Resolved,—That Mr. Hocking, the purser, shall forthwith forward to the financial committee in London, a duplicate of the cost-book, and all accounts, vouchers, and the original license, granted by the lord for the inspection of all concerned.

Resolved,—That 10 days before the pay-day Mr. Hocking do send a monthly cost-sheet of the expenses, with every particular, and classified, to the financial committee in London, for the purpose of being examined and passed; and that the same shall also contain particulars of all moneys received from the sale of ores, and shall show clearly the money required to be advanced for paying the monthly expenditures; and that upon the same being examined and passed by the financial committee, they shall remit a cheque for the payment of the same; and that, 10 days after the receipt of the cheque, Mr. Hocking shall transmit all the vouchers to the financial committee in London, for the inspection of all concerned.

Resolved,—That Capt. Verran do apply for an extension of ground, if he think it advisable, for the benefit of the shareholders; and that he do obtain a reduction of the lords' dues, which at present are too highly rated, and that he obtain immediately a renewal of license.

Resolved,—That Capt. Verran do transmit monthly, to the financial committee in London, a full report of the progress and the working of the mine.

Resolved,—That the deep adit end be driven by a sufficient number of hands to intersect the copper lode, at or about 20 fathoms distant of the present end, and that the same be set by public survey.

Resolved,—That the shaft on No. 3 lode be continued and sunk, if admitted by water, and that the same be set by public survey.

Resolved,—That the captain be authorised to set all pitches that might be applied for.

Resolved,—That a call of 2s. per share be now made, and forthwith paid to the purser, to liquidate the debt (see 4th resolution), and for the further prosecution of the mine.

Resolved,—That the next meeting of adventurers be held on the 28th day of Sept. next.

(Signed) J. CAREY, SAMUEL HALLAM,
D. L. WILLIAMS, JAMES F. WEBBER,
J. McFADGEON, J. GRAY,
T. ROOKE, R. I. HOCKING.
RICHARD WOOLCOCK, J. CAREY, Chairman.

The cordial thanks of the meeting were given to the chairman, for the ability manifested in the execution of the duties devolving on him. R. I. HOCKING, Purser.

SPRINGBANK IRON-WORKS.—The FIRM of AITKEN, ALLAN, & CO., IRON FOUNDERS, KELVIN FOUNDRY, having some time since been DISSOLVED, Mr. ALLAN, in soliciting a share of the patronage formerly bestowed on him, begs to inform his former customers, and the trade in general, that the above WORKS are now in FULL OPERATION—capable of producing castings of every description, required for the Foreign, English, Irish, and Scotch markets—and that the BUSINESS will be CARRIED ON under the FIRM of

Springbank Iron-Works, Glasgow, July 3, 1848. THOMAS ALLAN & CO.

BOILER EXPLOSIONS.—JOSEPH SPENCER, ENGINEER and IRONFOUNDER, BILSTON, STAFFORDSHIRE, desires to inform all persons using STEAM-ENGINES, that he has constantly on hand a LARGE SUPPLY of his SAFETY WHISTLES, which can be fixed to boilers on the shortest notice.

TO BE SOLD, BY PRIVATE CONTRACT, a THREE- CYLINDER CONDENSING-ENGINE, 16-horse power; also, an 8-horse HIGH-PRESSURE THREE CYLINDER ENGINE, working upon three-throw triangular cranks—thereby affording a steady and uniform motion, which renders them particularly applicable and well adapted for grist-mills, clothing-mills, or any machinery requiring a steady and even movement.—Address to Mr. Edmund Rudge, engineer, Church-street, Towkesbury, Gloucestershire.

FOR SALE, BY PRIVATE CONTRACT, separately or to- gether, a nearly NEW STEAM-ENGINE, on the combined principle of Messrs. Harvey and Co., from the drawings of Mr. W. West, with 60 and 32-inch cylinders—equal to 141 horse-power. Also, TWO first-rate WATER-WHEELS and connections (one a 40-feet wheel, 4-feet breast, iron ring, sockets, and cylinder ends, with brasses, &c.—the other a 30-feet wheel, 3 feet breast).—A QUANTITY of 11-inch PUMPS, and various other excellent MINING MATERIALS and MACHINERY.

May be seen at Wheal Martha Mine, near Stoke Climsland, Cornwall.—Offers and communications to be made to Mr. Davis, auctioneer, Tavistock; or to Mr. Cole, at Winchester-house, Old Broad-street, London.

FOR SALE, BY PRIVATE CONTRACT—A single-acting PUMPING-ENGINE—cylinder 30-inch diameter, 9-feet stroke, equal beam, with 7-ton boiler, cisterns, spring beam, and first set of rod-shafts attached, being the engine of Wheal St. Cleer.—For particulars, apply to Capt. Osborne, Liskeard; Mr. West, engineer, St. Blazey; or Mr. Rendle, the purser, 13, Octagon, Plymouth.

TO MINING COMPANIES interested in, and PARTIES desirous of becoming PURCHASERS of, MINERAL LANDS, in SOUTH AUSTRALIA.—The ADVERTISER, a civil engineer, who has lately returned from the colony, and has had considerable experience in mining operations there, and is well acquainted with that vast mineral district, now OFFERS his SERVICES to any company who may be about sending out a RESIDENT SUPERINTENDENT, or to any party who may be about purchasing mineral land there. Satisfactory references will be given.—Address "T. M. E.," at the office of the *Mining Journal*, 26, Fleet-street, London.

MINING.—TO MINING PROPRIETORS, COMPANIES, MINING SHAREHOLDERS, and MINE AGENTS of GOLD, SILVER, LEAD, TIN, COPPER, IRON, COAL, &c.—All letters addressed to

EVAN HOPKINS, C.E., F.G.S.,

Soliciting his OPINION and ADVICE on the PROSPECTS of any given MINE or any UNTRIED GROUND (the essential particulars being furnished), or to INSPECT and SURVEY, or to make PLANS, SECTIONS, and REPORTS on any MINING PROPERTY, are to be sent (for the present), to the care of the Editor of the *Mining Journal*, 26, Fleet-street, London, who will forward the same, and to which due and confidential attention will be paid without delay.

MINING SHARE OFFICE.—W. BAWDEN, of No. 2, BANK CHAMBERS, LONDON, MINE AGENT, of 21 years' standing, begs to call the attention of PURCHASERS of MINING PROPERTY to the following SHARES at this particular time—viz.: United Mexican, Bolanos, Del Reys, and Tamars, as there is, from present appearances, every rational prospect for purchasers realising from 50 to 200 per cent., in a few months, on their outlay.—W. B. will be most happy to give every information respecting these and other raining shares.—*Attendance daily from Ten to Four.*

MINING OFFICES—Established Five Years.— THOMAS P. THOMAS begs to inform his friends and the public, that he has REMOVED from No. 18, Threadneedle-street, to No. 3, GEORGE-YARD, LOMBARD-STREET, LONDON (late Messrs. Phillips and Tiplady's).

N.B.—Dealer in English and Foreign Funds, Mining, Railway, Gas, and other shares.

MR. R. TREDINNICK, THREE KING'S COURT, *LOMBARD-STREET, LONDON,*

Continues to DEAL in every description of MINING, RAILWAY, BANKING, INSURANCE, CANAL, and OTHER SHARES.—Statistical information afforded gratuitously, upon personal application.—MONEY ADVANCED upon the above securities.

MR. JAMES STRIDE'S MINING AND AGENCY OFFICES, 27, *SPRING-GARDENS, LONDON.*

JAMES LANE, MINING SHARE DEALER, 75, *OLD BROAD-STREET, LONDON.*

REUBEN FARLEY, MINE AGENT, AND LAND AND MINE SURVEYOR, *WEST BROMWICH, NEAR BIRMINGHAM.* AGENT to the NORTH OF ENGLAND FIRE AND LIFE INSURANCE COMPANY.

WILLIAM W. TAYLOR & CO., MINERAL SURVEYORS MINING SHAREBROKERS, &c.,
No. 2, ROYAL EXCHANGE-BUILDINGS, LONDON.

WILSON & FRASER, 2, WELLINGTON-BUILDINGS, LIVERPOOL, and 13, EXCHANGE-PLACE, GLASGOW, have always ON SALE PIG-IRON, BAR-IRON, RAILWAY CHAIRS, and RAILWAY BARS.

MONEY.—MESSRS. KILLICK & CO. (late Winstanley, Killick, & Co.), SHAREBROKERS, inform their friends and the public, they make IMMEDIATE ADVANCES, to any amount, on the deposit of English and Foreign Railway Shares, Scrip, and Debentures, upon exceedingly advantageous terms: they also BUY and SELL every description of STOCK and MINING SHARES, at much less commission than usually charged.

6, Bank Chambers, opposite the Bank of England.

CALLINGTON MINES COMPANY.—At a Quarterly Special General Meeting of the shareholders in this company, held this day, the following resolutions were passed:—

Resolved,—That the reports and accounts, now submitted, be received, adopted, and entered in the cost and transfer book.—Carried unanimously.

Resolved,—That the best thanks of this meeting be presented to the chairman and directors, for their attention and devotion to the interests of the company.—Carried unanimously.—44, Finsbury-square, June 28, 1848.

CONSOLIDATED COPPER MINES OF COBRE ASSO- CIATION.—Notice is hereby given, that the HALF-YEARLY GENERAL MEETING of proprietors of this association will be HELD at the office of the company, No. 26, Austinfriars, on Tuesday, the 25th July inst., at One o'clock precisely.

By order of the court of directors,

26, Austinfriars, July 6, 1848. WM. LECKIE, Secretary.

ROYAL SANTIAGO MINING COMPANY.—The directors hereby give Notice, that the ANNUAL GENERAL MEETING of the shareholders will be HELD at the office of the company, on Wednesday, the 12th of July next, at One o'clock precisely, when the directors will make their report.

38, Broad-street-buildings, June 23, 1848.

TAMAR SILVER-LEAD MINING COMPANY. SMELTING DEPARTMENT.

Notice is hereby given, that, on Wednesday, the 12th of July next, and following Wednesdays, between the hours of Twelve and Four, a FOURTH, and FINAL, PAYMENT will be made of 25 per cent. of the subscribed capital of this company; also, a FOURTH, and FINAL, PAYMENT, of 25 per cent. of the bonus. The interest due upon the said 25 per cent. of subscribed capital, to the 30th inst., will likewise be paid upon the same days.—The debentures must be lodged at the office of the company three clear days, to be examined.—44, Finsbury-square, June 29, 1848.

UNITED MEXICAN MINING ASSOCIATION.—Notice is hereby given, that the HALF-YEARLY GENERAL MEETING of proprietors of this association will be held at the office of the company, 5, Finsbury-circus, on Wednesday, the 26th day of July inst., at One o'clock precisely, when the election of two directors and one auditor will take place.—Directors going out by rotation: James Mackillop and John Hibbert, Esqs.—Auditor going out by rotation: John Hibbert, jun., Esq.—and who, being eligible thereto, are candidates for re-election.—The transfer books will be closed on the evening of the 12th, and reopened on the 27th inst.

By order of the court of directors,

5, Finsbury-circus, London, July 1, 1848. JOHN MATHER, Secretary.

ADCOCK'S PATENT SPRAY PUMP.—This important INVENTION having been PERFECTED, and brought into SUCCESSFUL PRACTICAL OPERATION, the PATENTEE is ready to RECEIVE, and to execute, ORDERS.—Apply to Henry Adcock, C.E., at his offices, No. 2, Moorgate-street, London, where pamphlets, descriptive of the invention, may be had; at the office of the *Mining Journal*, 26, Fleet-street; and through any respectable bookseller—price 6d.

THE PATENT OFFICE AND DESIGNS REGISTRY,

No. 210, STRAND, LONDON.

INVENTORS will receive (gratis), on application, the OFFICIAL CIRCULAR OF INFORMATION, detailing the eligible course for PROTECTION of INVENTIONS and DESIGNS, with Reduced Scale of Fees.

Messrs. F. W. CAMPIN and CO. offer their services, and the benefit of many years' experience, in SECURING PATENTS and REGISTRATIONS OF DESIGNS, with due regard to VALIDITY, economy, and dispatch—assisted by scientific men of repute.

Also, in MECHANICAL and ENGINEERING DRAWINGS, whether connected with Patents, Railways, or otherwise, by a staff of first-rate draftsmen.

Application personally, or by letter, to F. W. Campin and Co., No. 210, Strand (corner of Essex-street).

PATENT IMPROVEMENTS IN CHRONOMETERS,

WATCHES, AND CLOCKS.—E. J. DENT, 82, Strand, and 33, Cockspur-street, watch and clock maker, BY APPOINTMENT, to the Queen and his Royal Highness Prince Albert, begs to acquaint the public, that the manufacture of his chronometers, watches, and clocks, is secured by three separate patents, respectively granted in 1836, 1840, 1842. Silver lever watches, jewelled in four holes, 6 gs. each; in gold cases, from £8 to £10 extra. Gold horizontal watches, with gold dials, from 8 gs. to 12 gs. each.

DENT'S PATENT DIPLIEDOSCOPE, or meridian instrument, is now ready for delivery. Pamphlets containing a description and directions for its use 1s. each, but to customers gratis.

PROFESSIONAL LIFE ASSURANCE COMPANY,

Connecting the Clerical, Legal, Military, Naval, and Medical professions, and holding out advantages to the public not hitherto offered by any similar institution.

Incorporated.—Capital £250,000.

Established upon the mixed, mutual, and proprietary principle.

Rates essentially moderate.—Every description of policy granted. Immediate, survivorship, and deferred annuities; and endowments to widows, children, and others.—Every policy (except only in cases of personation) indisputable.—The assured permitted to go to and reside in Canada, Nova Scotia, New Brunswick, Australasia, Madeira, Cape of Good Hope, and Prince Edward's Island, without additional premium.—Medical men remunerated for their reports.—Loans granted on real or personal security.—One-tenth of the entire profits appropriated for the relief of the assured while living, and of his widow and orphans.—Annuities granted in the event of blindness, insanity, paralysis, accidents, and any other bodily or mental affliction, disabling the parties. Persons of every class and degree admitted to all the advantages of the corporation.—Rates for assuring £100 at the age of 25, 35, 45, and 55, respectively—namely, £1 14s. 6d., £2 5s 6d., £3 4s. 3d., and £4 18s. 6d.

Prospectuses, with full details, may be had at the office.—Applications requested from parties desirous of becoming agents. EDWARD BAYLIS, Actuary and Secretary.

Offices, 76, Cheapside, London.

NATIONAL LOAN FUND LIFE ASSURANCE SOCIETY,

26, *CORNHILL, LONDON.*

Capital £500,000.—Empowered by Act of Parliament.

This institution embraces important and substantial advantages with respect to Life Assurances and Deferred Annuities. The assured has, on all occasions, the power to borrow, without expense or forfeiture of the policy, two-thirds of the premiums paid (see table); also the option of selecting benefits, and the conversion of his interests to meet other conveniences or necessity.

Assurances for terms of years are granted on the lowest possible rates.

DIVISION OF PROFITS.

The remarkable success and increasing prosperity of the society has enabled the directors, at the last annual investigation, to declare a fourth bonus, varying from 35 to 85 per cent. on the premiums paid on each policy effected on the profit scale.

EXAMPLES.

Age	Sum.	Prem.	Year.	Bonus added.	Bonus in Cash.	Permanent reduction of Premium.	Assured may Borrow.
60	£1000	£0 3 4	1837	£217 15 1	£109 0 11	£16 0 4	£445 0 0
			1838	192 3 0	87 1 4	13 10 2	395 11 1
			1839	165 11 10	74 1 9	11 3 1	346 2 3
			1840	116 7 6	54 0 10	7 18 10	296 13 4
			1841	111 6 8	49 10 0	7 10 4	247 4 5

The division of profits is annual, and the next will be made in December of the present year. F. FERGUSON CAMROUX, Secretary.

ON NERVOUS DEBILITY AND GENERATIVE DISEASES.

Just published, the thirty-fifth thousand, an improved edition, revised and corrected, 120 pages, price 2s., in a sealed envelope, or forwarded, post-paid, by the Authors, to any address, secure from observation, for 2s. 6d., in postage stamps, illustrated with numerous anatomical coloured engravings, &c.

MANHOOD: the CAUSES of its PREMATURE DECLINE,

with plain directions for its perfect restoration. A Medical Essay on those diseases of the Generative Organs, emanating from solitary and sedentary habits, indiscriminate excesses, the effects of climate, and infection, &c., addressed to the sufferer in youth, manhood, and old age; with practical remarks on marriage, the treatment and cure of nervous and mental debility, impotency, syphilis, and other urino-genital diseases, by which even the most shattered constitution may be restored, and reach the full period of life allotted to man. The whole illustrated with numerous anatomical engravings on steel, in colour, explaining the various functions, secretions, and structures of the reproductive organs in health and disease; with instructions for private correspondence, cases, &c.—By J. L. CURTIS & CO., consulting surgeons, 7, Frith-street, Soho-sq., London.

REVIEWS OF THE WORK.

We feel no hesitation in saying, that there is no member of society by whom the book will not be found useful—whether such person hold the relation of a parent, preceptor, or a clergyman.—*Sun*, Evening Paper.

Curtis, *On Manhood.* (Strange).—Having for many years been the standard work on these diseases, its originality is apparent, and its perusal breathes consolation and hope to the mind of the patient.—*Naval and Military Gazette.*

Manhood: a medical work.—To the gay and thoughtless we trust this little work will serve as a beacon to warn them of the danger attendant upon the too rash indulgence of their passions—whilst to some it may serve as a monitor in the hour of temptation, and to the afflicted as a sure guide to health.—*Chronicle.*

Manhood: by J. L. Curtis and Co.—Their long experience and reputation in the treatment of these painful diseases is the patient's guarantee, and well deserves for the work its immense circulation.—*Era.*

Published by the authors, and may be had at their residence; sold also by Strange, 21, Paternoster-row, London; Heywood, Oldham-street, Manchester; Philip, South Castle-street, Liverpool; Robinson, 11, Greenside-street, Edinburgh; Berry and Co., Capel-street, Dublin; and, in a sealed envelope, by all booksellers.

Illustrated by 26 Anatomical Coloured Engravings on Steel, On Physical Disqualifications Generative Incapacity, and Impediments to Marriage. New Edition, enlarged to 196 pages.—Just published, price 2s. 6d., or by post, direct from the establishment, 3s. 6d. in postage stamps.

THE SILENT FRIEND: a medical work, on the infirmities

and decay of the generative system, from excessive indulgence, infection, and the inordinate use of mercury, with remarks on marriage, and the means of obviating certain disqualifications, illustrated by 26 coloured engravings. By R. & L. PERRY & Co., 19, Berners-street, Oxford-street, London. Published by the authors; sold by Strange, 21, Paternoster-row; Hannay, 63, and Sanger, 150, Oxford-street; Starie, 23, Titchborne-street, Haymarket; and Gordon 146, Leadenhall-street.

PART THE FIRST treats of the anatomy and physiology of the reproductive organs, and is illustrated by six coloured engravings.—PART THE SECOND treats of the consequences resulting from excessive indulgence, and their lamentable effects on the system, producing mental and bodily weakness, nervous excitement, and generative incapacity; it is illustrated by three explanatory engravings.—PART THE THIRD treats of the diseases resulting from infection, either in the primary or secondary form, and contains explicit directions for their treatment. The consequences of neglect, and of the abuse, of mercury are also clearly pointed out. This section is illustrated by 17 coloured engravings.—PART THE FOURTH treats of the prevention of disease by a simple application, by which the danger of infection is obviated. Its action is simple, but sure. It acts with the virus chemically, and destroys its power on the system. This important part of the work should be read by every young man entering into life.—PART THE FIFTH is devoted to the consideration of marriage and its duties. The causes of unproductive unions are also considered, and the whole subject critically and philosophically inquired into.

THE CORDIAL BALM OF SYRIACUM is exclusively employed in treating nervous and sexual debility, impotence, &c., 11s. and 33s. per bottle.—THE CONCENTRATED DETERSIVE ESSENCE, an anti-syphilitic remedy, for purifying the blood in cases of infection, secondary symptoms, eruptions, and the abuse of mercury, 11s. and 33s. per bottle.—PERRY'S PURIFYING SPECIFIC PILLS, 2s. 9d., 4s. 6d., and 11s. per box—a certain remedy in gonorrhœa, gleet, strictures, and chronic inflammation of the bladder.—Consultation fee, if by letter, £1. £5 packets, with advice, to be had at the establishment only, by which the fee, £1, is saved.—Attendance daily at 19, Berners-street, from 11 to 2, and 5 to 8; on Sundays, from 11 to 1.

Sold by Sutton and Co., 10, Bow Churchyard; W. Edwards, 67, St. Paul's Churchyard; Barclay and Sons, Farringdon-street; Butler, 4, Cheapside; R. Johnston, 63, Cornhill; L. Hill, New Cross; W. B. Jones, chemist, Kingston; J. W. Tanner, Egham; S. Smith, Windsor; J. B. Shillock, Bromley; T. Riches, London-street, Greenwich; T. Parkes, Woolwich; Ede and Co., Dorking; and John Thurlby, High street, Romford—of whom may be had the *Silent Friend.*

REMOVED TO No. 37, BEDFORD-SQUARE, LONDON.

DR. LA'MERT ON THE SECRET INFIRMITIES OF YOUTH AND MATURITY, With 40 coloured engravings on steel.

Just published, and may be had in French or English, in a sealed envelope, 2s. 6d.; or post-free, from the author, for forty-two stamps.

SELF-PRESERVATION: A Medical Treatise, on the Physiology

of Marriage, and on the Secret Infirmities and Disorders of Youth and Maturity, usually acquired at an early period of life, which enervate the physical and mental powers, diminish and enfeeble the natural feelings, and exhaust the vital energies of Manhood; with Practical Observations on the Treatment of Nervous Debility, whether arising from these causes, close study, or the influence of tropical climates; local and constitutional weakness, syphilis, stricture, and all diseases and derangements resulting from indiscretion; with 40 coloured engravings, illustrating the Anatomy, Physiology, and Diseases of the Reproductive Organs, explaining their various structures, uses, and functions, and the injuries that are produced in them by solitary habits, excesses, and infection.

BY SAMUEL LA'MERT, M.D., 37, BEDFORD-SQUARE, LONDON.

Doctor of Medicine, Matriculated Member of the University of Edinburgh, Licentiate of Apothecaries' Hall, London, Honorary Member of the London Hospital Medical Society, &c.

REVIEWS OF THE WORK.

"The author of this singular and talented work is a legally qualified medical man, who has evidently had considerable experience in the treatment of the various disorders, arising from the follies and frailties of early indiscretion. The engravings are an invaluable addition, by demonstrating the consequences of excesses, which must act as a salutary warning to youth and maturity, and by its perusal, many questions may be satisfactorily replied to, that admit of no appeal, even to the most confidential friend."—*Era.*

"Unquestionably this is a most extraordinary and skilful work, and ought to be extensively circulated; for it is quite evident that there are peculiar habits acquired at public schools and private seminaries, which are totally unknown and concealed from the conductors of those establishments, and which cannot be too strongly reprobated and condemned. The engravings that accompany the work are clear and explanatory; and being written by a duly-qualified medical practitioner, will, doubtless, be the means of saving many a youth, as well as those of maturer age, from the various evil consequences resulting from early indiscretions."—*Magnet.*

Sold by Kent and Richards, 82, Paternoster-row; Hannay, 63, Oxford-street; Starie, Titchborne-street, Haymarket: Mansell, 115, Fleet-street; Gordon, 146, Leadenhall-street; or free by post, for 42 stamps, from the author's residence, who may be consulted personally (or by letter) on these disorders daily, from 10 till 2, and from 5 till 8.

MINING ON THE RHINE.

[From BAKEWELL'S *Industry of the Rhine.*]

The Müsen brook falls into the Ferndorf, a tributary of the Sieg. On this stream a Government foundry is established, about two miles from Müsen, and serves as a model for the neighbourhood, as the Stahlberg is a model mine. The road thither lies past the stamps and inclined planes for washing the refuse ore; but the greater part is obtained in so rich a state from the mine, as to need no other preparation than breaking up into small pieces with a hand-hammer. The stamps and tables are worked by a large water-wheel, and are not calculated to finish more than 1 or 2 cwts. per day, as much time is lost in sorting the qualities that are rich in silver, however small their quantities may be. At the end of the Müsen valley is an iron foundry after the fashion of the country, and near it is a small machinery factory, conducted ably by Messrs. Klein, who inhabit two handsome houses immediately adjoining. The planing and boring in this work are done with steam-power. Nearly each of the steep valleys into which the central mountain summit of the Martinshardt divides, has some small establishment; stamps, furnaces, or hammers, all worked by water-power on a diminutive scale. Were it not for the very indifferent tavern accommodation and absolute scarcity of sporting opportunities (with the exception of a few trout in the streams), a ramble through these glens would prove amusing. But the leading features of the mining and metallurgy of these parts are accessible in many places to the traveller without much sacrifice of time or labour. At Loh the stranger is sure of a hospitable reception by the director, M. Stengel, the patriarch of scientific iron founders, if he be interested in metallurgical operations. The foundry is on a small scale, but embraces much that is worthy of study, and no better guide can be found than its director. In the iron-furnace, which has a cylinder-blast, with air warmed by gas taken from the top, the ore of the Müsen Mine which falls to the Government share is smelted. In this district generally the Stahlstein, or sparry iron ore, is not roasted, but is put in a state of Nature into the furnace, with its sulphur and all its imperfections on its head. At Loh the ore is first roasted, and then allowed to lie for a long period in heaps, that the air and rain may work upon the copper combined with the iron, and disengage it. In consequence of the care thus taken, and which might be carried further with advantage, the iron smelted at Loh bears a higher price than the generality of the iron produced in the district. When smelted with charcoal and chilled as it runs out of the furnace, it assumes a highly crystallised appearance, brilliantly white when freshly broken, and so hard that a file will not touch it. Analyses have shown the ore to contain—carbonic acid, 30 per cent.; manganese, 10; oxide of iron, 59; earthy particles, 1=100 per cent. The iron in the first stage, or Spiegeleisen, contains—Manganese, 4 per cent.; carbon, 5½; iron, 90½=100 per cent. It is supposed that the manganese contained in the ore facilitates in some manner the regulation of the portion of carbon in the iron. However this may be, the ores that are found to contain most manganese are sought by the founders who desire to make Spiegeleisen, or the material that it is perhaps allowable to denominate steelpig. It is a peculiarity both of the steelstone and of the steelpig made from it, to be very ductile, and this allows of its being smelted in the country furnaces, not only without roasting, but without any addition of limestone; the common run of ore does not, however, contain more than 40 to 45 per cent. of iron.

Loh is the proper place to see the working up of this valuable material to the second stage of raw steel, a process to which M. Stengel has devoted special attention. The large flat slabs which are run from the blast-furnace are broken up into pieces, and a lump of about 8 cwts. is heated by lying on the coals of the furnace used for puddling or decarbonising. This is a low open furnace, containing a bed of charcoal about 2½ ft. in depth and 4 ft. square. The blast is introduced at the side about the middle of the bed, into which the lump is plunged and exposed to its action until it comes to a melting state. The steel-puddler's art consists in detecting the precise moment for checking the fusion of the metal, and in regulating the blast so that no more carbon shall be extracted from the mass than is necessary. The lump is frequently brought under a heavy hammer, which, with considerable loss of material, shapes it to the figure of a pine-apple, then with its front (which is sloped to a wedge) cuts it into four pieces. Each of these, after several reheatings, is brought down into a bar 1½ in. square, to try the temper of which an end is broken off by striking it on an horizontal bar. If it breaks short off, and the core is perfect, it is reckoned to be a good article. But frequently a black core is engendered either from burnt metal or from extraneous matter that has not been discharged under the hammer. If this appears, it is thrown aside as inferior quality, although still valuable. The analysis of the raw-steel bars shows them to contain about 2 per cent. of carbon, which is nearly double the quantity that enters into the composition of English cast-steel. Hence, by the process of shearing or welding together strips of this steel with strips of bar-iron under heavy hammers, or by means of casting with a proportion of malleable-iron, the proper fusion of carbon is obtained, and fine steel produced.

We have already said that steel can be obtained by casting from the steelpig mixed with a proportion of bar-iron, for which purpose the charcoal iron of this district appears to be especially suited. Whether it derives this quality from any natural affinity to carbon, a tendency which is pointed out as distinguishable even in the ore of various mines that are said to be more steely than others, or merely from its being free from impurities in consequence of the care bestowed upon the smelting, has not been satisfactorily ascertained.

Lead and copper are also smelted at Loh, where the processes usual in this country may be seen. They are adapted to production on a small scale, and to the use of wood and charcoal for fuel. Consequently, while they leave the smelter very little profit, he cannot afford to pay more for the raw material than is shown in the preceding table. His wages are also at the lowest point that will support life, not being more than 1s. per diem for adults, in a country where black rye-bread sells at 1d. and 1½ per lb. The advantage that lies in having the ore on the spot, and water-power to work the blast, added to the enormous cost of land-carriage from the heart of this mountain-district to the Rhine, the Ruhr, or the Lahn, ensures the smelter a monopoly of the ores. But, under these circumstances, mining is carried on in a very lax fashion, and the supplies are small. Projects are afloat for two tram-roads—one from the Ruhr at Hagen to the Lahn, traversing the mining district of Siegen and Dillenburg. Another is projected, and the measurements are now making for it, from Dillenburg to the Rhine near Coblenz. Either plan would operate a great change in these parts, and would be much in favour of the mining population. At present coals brought by land-carriage from the Ruhr cost 30s. per ton, delivered at works recently erected at Creutzthal and at Geisweid, which the traveller passes on his way from Loh to Siegen. The former is for rolling sheet-iron, and has considerable water-power, but is not vigorously worked. The latter is a rolling-mill, belonging to Messrs. Dresler, a large mining and smelting firm at Siegen, and makes iron of all sizes. Both works, although respectable, are on a small scale, being rather suited to the high price of coals than to the capabilities either of the mines or markets of the neighbourhood. Some interesting experiments on the puddling of the steel iron, so as to obtain steel bars on a scale equal to the manufacturing iron bars, are now progressing at Messrs. Dresler's works, under the direction of M. Zintgraf, the chief inspector of furnaces at Siegen. This gentleman, who is a member of the mining board, has also an ingenious plan of using the gas of furnaces for reheating in rolling-mills under trial.

Along his whole route throughout this district, which is crossed by the high roads leading to Cologne, Elberfeld, and Westphalia, the traveller sees the sides of the hills bored, and many indications of pits on their summits, forming the points of access to the numerous mines which are everywhere working. He is here in that division of the clay and greywacke slates which, lying to the eastward of the old limestone ridge that forms the watershed between the Rivers Ruhr and Sieg, sends all the streams into the latter river. This district is geologically isolated, lying between the comparatively recent formations that are found on the slopes towards the north and west, and the trap formations in the neighbourhood of Dillenburg, which are connected with the huge basaltic heavings of the Westerwald. The district contains some imposing summits, such as the Martinshardt, near Müsen, 1700 ft.; the Rothenberg and Gilsberg, near Siegen; the Ederkopf, where the Rivers Sieg, Lahn, and Eder have their sources; and the Höheberg, between the Sieg and the Heller, varying from 1200 to 1500 ft. above the level of the sea. The Siegen district is, as has been remarked, also mineralogically distinguished, chiefly by the occurrence of the sparry iron ore or steelstone. The valleys in which it is found are those of the Rothenbach near Müsen, the Ferndorf, the Crombach, the Sieg, the Weiss, the Eisern, the Agger, the Gosenbach, Fisbach, and Wildbach, the Heller, and the Great and Little Nister.

The sparry iron ore is generally found accompanied with a little copper, occasionally with lead, cobalt, nickel, antimony, and arsenic, with pyrites or sulphates of all descriptions. It occurs in veins, sometimes large enough to be quarried like beds, as at Müsen, but more generally in veins that run deep, but are not of long continuance, being frequently cut off by faults and throws, after which it requires both skill and capital to recover the lode. These characteristics have had great influence both on the customs and laws that regulate mining operations; but certain economical notions that have been pertinaciously worked out have influenced them still more. We adjourn an account of them until we have taken the traveller to Siegen, the chief town of the district. On his route he will pass several iron-works and steel-hammers standing idle, and in a state of ruin, together with new erections upon modern plans, but indicative of tumidity on the part of the owners.

The town of Siegen is, far more picturesquely than conveniently, situated on a steep eminence, which it is difficult to ascend in summer, and dangerous to climb in winter. During our stay there a loaded waggon descending on one side actually overran the horses, and crushed six valuable animals to death. But it is a characteristic of the place, and of the notions prevailing in the district, that this inconvenience is supposed to contribute to the prosperity of the town, because a few wretched horses are kept to eke out the teams of waggons. A projected road at the foot of the hill, which would avoid this ascent, but also, it is true, the principal street of the town, has long been retarded in consequence. There is scarcely a town in Europe that presents so extraordinary and antiquated an appearance as Siegen: between two large castles that are picturesquely relieved with fantastic towers, the diminutive houses of the citizens, with gables turned to the street, and fronts that are familiar in England only to the readers of Mr. Knight's *Antiquities of London*, are lost in a maze of narrow, ill-paved streets, which are half choked up with dunghills. It is scarcely possible to conceive that this is the chief town of a district inhabited by the most intelligent and industrious population of the continent. But sharp and active as the inhabitants of these mountains and picturesque valleys are, their notions are as often antiquated and as fantastic as the houses of their magistrates in the good city of Siegen.

The story of this district is peculiarly interesting, as it involves the working out of the problem of protection from beginning to end. There never was a better opportunity of making the experiment, nor has clearer evidence of the unavoidable results to which monopolies lead anywhere been obtained than can here be shown. The object sought to be monopolised was the manufacture of steel, for which we have said that the iron made from the sparry iron ore is peculiarly fitted. Smelted with charcoal, which also abounded here, the steel of Siegen was long prized as equal to any obtained in Europe. It probably formed an important item in the exports of the Easterlings, or Hanseatic traders to London; and in deciding between the conflicting etymologies that have been offered for the steelyard near London-bridge, this circumstance ought to be allowed its due weight.

It appears not unlikely that some prince of the house of Nassau brought the improved steel manufacture from the other side of the Alps. The Nassau princes were proud of their mines, which at an early period furnished them with large revenues: one, in the neighbourhood of Siegen, that produces rich silver-lead, has documentary testimonials of its antiquity that reach to the epoch when Adolph of Nassau ascended the imperial throne. The steel monopoly seems to have been organised later, and the first enactments relating to it show that originally a larger number of furnaces existed than was afterwards tolerated. As long as smelting was performed in moveable furnaces, of which there are many traces, no taxation could well be enforced upon the smelters; but, when the use of water-power came to be understood, and these arts obtained fixed habitations, they became, like other property, an object of speculation both for sovereigns and subjects. The oldest document respecting furnaces and hammers is dated 1443; in another of 1444, as many as 29 furnaces are enumerated in this district. By a compact between the iron smelters and workers, and the counts of Nassau and Sayn in 1478, the metal-workers bind themselves not to carry their art out of those districts on pain of death and forfeiture. What the counter advantages then granted were, we are not told; but a later treaty or confirmation of the preceding by William of Nassau, in 1555, declares, "that he and his heirs will abandon for ever the arts of smelting, casting, and hammering of iron and steel, with the exception of the work at Freudenberg, in consideration of 2100 gold florins, to be paid him by the owners of furnaces and hammers in the Siegen district." In later confirmations of the rights of the smelters they are exempted from certain taxes, and from military and other suit and service. On all occasions of renewal of their charter the smelters and hammermen were, as might be expected, duly mulcted for the benefit of the crown. Two noble families, the owners of the castles of Burgholdingham and Loh, had each a furnace, a steel-hammer, and an iron-hammer; but, although they seem to have kept aloof from the commonality by not subscribing to their compacts, yet the authority of the ruling houses was sufficient to oblige them to submit to the regulations that were promulgated as law. Their prosperity seems to have soon suffered from the evils common to all monopolising attempts.

Security probably induced neglect; the forests were not proof against constant thinning, for which there was then no proper provision of renewal; and soon after the establishment of the monopoly, it was again found necessary to prohibit the exportation of charcoal. From 1563 to 1616 this prohibition was enforced, and yet it was found necessary to reduce the number of furnaces. They were gradually reduced from 34 to 17, at which number they remained stationary—viz.: 10 iron, 7 steel furnaces; with 18 iron-hammers, 13 steel-hammers, and 4 copper, lead, and silver, smelting-houses. The establishment of the counts of Nassau near Freudenberg was afterwards bought up, which reduced the blast-furnaces to 16.

The next step taken was to limit the number of days which each of those furnaces was allowed to work; and, after many changes, the Siegen furnaces settled down as follows:—Furnace at Eiserfeld, 125 days; Eisern, 186; Hayn, 91; Marienborn, 128; Sieghütte, 121; Haardt, 62; Tiefenbach, 62; Gosenbach, 90; Birlenbach, 92=957 days. Thus, nine furnaces were to perform the work of three that should be kept at constant work. The furnaces are all the propery of numerous shareholders, whose portions are estimated in days. One man has, perhaps, 20 or more days, another 5, another 1, or even half a day. These days they can let to others if they do not choose to use them; and, from the rent obtained, each day is assumed to be the equivalent of a certain sum in fixed capital, that varies according to the locality and the standing of the furnace. The sum varies from $450 (67*l.* 10s.) to $240 (36*l.*); and a valuation of the whole in 1836 gave a sum equal to $299,150, or 44,877*l.* 10s.

An arrangement like that we have described rested too much upon chance to be of great duration; and yet chance favoured it singularly. One great object of Napoleon was to secure this district, and monopolise the supply of arms which it could furnish. He, therefore, incorporated it into the French empire, with the adjacent district of Dillenburgh. But, although he knew the value of the people, and formed his sappers and miners and practical engineers out of the drafts levied here, yet the French emperor was singularly blind as to the mode of making the country itself productive. This is the only part of his empire of any importance where Napoleon made no roads. As a natural consequence, the differential duty imposed by the carriage to and from a highland capital protected the produce to the extent of the home market, and raised the price of such goods as were fine enough to be sought abroad. The monopoly, therefore, still bore up within continually narrowing limits until roads came, which has been only within a few years. It then broke down in the most natural manner possible.

When the district at the peace became a portion of the kingdom of Prussia, this monopoly was, of course, found to be quite anomalous, and even contrary to the spirit of the laws of that kingdom. But it rested on the faith of compacts with the sovereign, and, what was more in its favour, seemed only to threaten injury to those who adhered to it. Things were, therefore, left as the Prussians had found them, as regarded the hammers and furnaces, and the Government agreed not to interfere by granting licenses to erect new ones. No sufficient claim, however, could be made out to the monopoly of ore and charcoal, and these were declared to be free. In consequence of this, furnaces situated on the outskirts of the Siegen district became valuable, because, as they could work all the year round, the proportion of fixed capital which they took up was small. Then came the opening of the coal pits on the Ruhr, which cheapened fuel for the furnaces lying on the western boundary. Olpe, which lies on the new road that was soon after begun by the Prussians, has reaped the benefit of all these changes, and has since become a centre of roads crossing in all directions. The new roads carried off the pig-steel to puddlers and hammer-works in the coal districts; and the people of Siegen have their monopolising Hutten and Hammerordnung still, without anybody's being hurt by it but themselves.

A new license was granted in 1846 for a furnace to be heated with coke; but public opinion has so much changed on the subject, that a proposal for throwing open the trade would probably be well received by the majority, especially as scarcely one of all the privileged hammers can work at present prices.

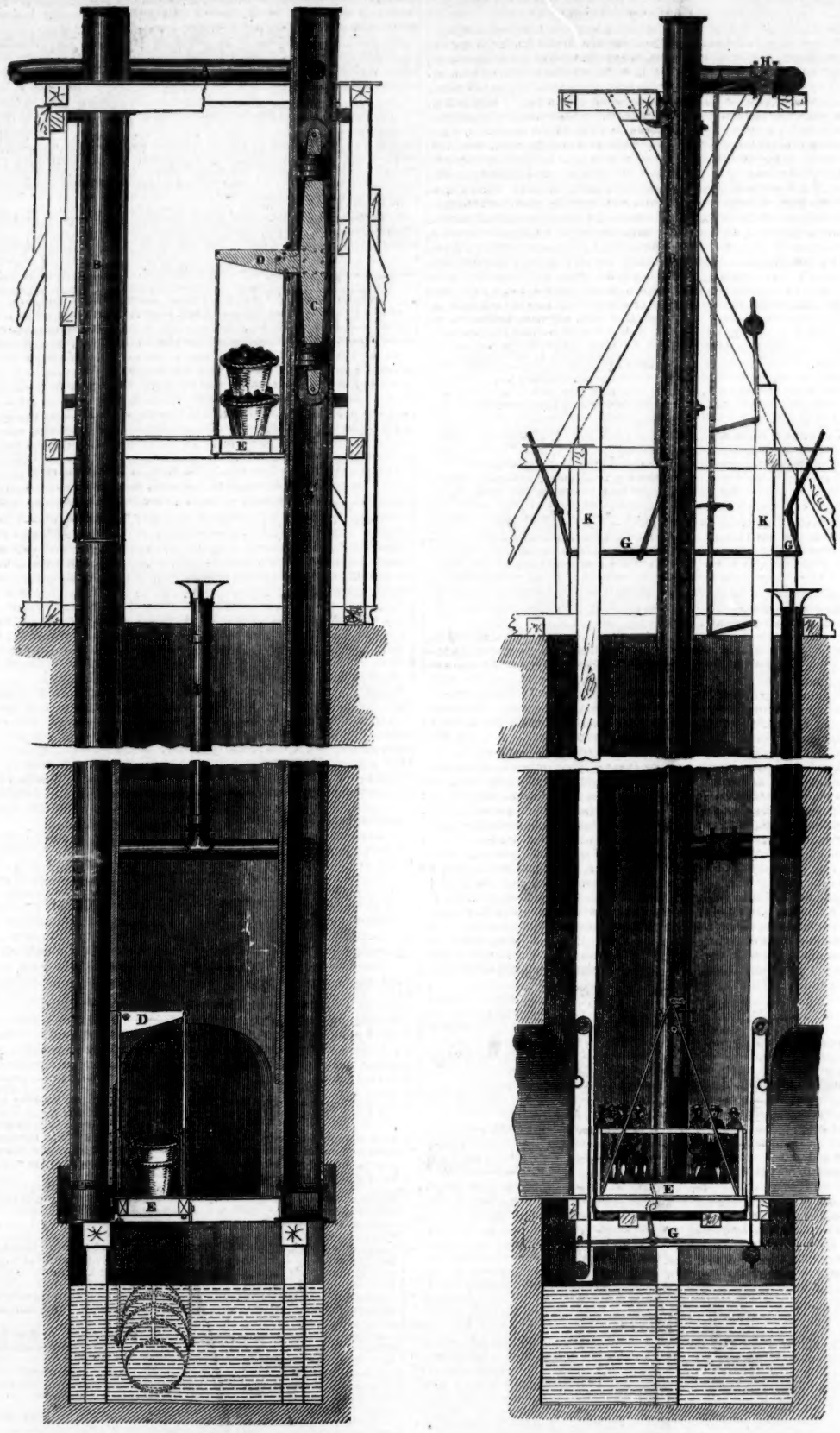
The highly intelligent members of the Bergamt, or mining board of Siegen, although obliged in their official position to remain neutral respecting this question so deeply affecting the interests of many of the townsmen, have contributed not a little to show the monopoly in its true light, as the real cause why more is not produced at cheaper rates in the district. There, as at Dortmund, the scientific or commercial traveller may reckon upon meeting a hospitable reception, and can gratify his curiosity by consulting underground mappings of a district as large and nearly as rich as Cornwall. The mining board possesses a highly valuable geological and mineralogical cabinet, that has been enriched by contributions from all parts of the world which Siegen miners have visited, and they are not few. Some of them, by economising their salaries, and making judicious ventures, returned home from the early Mexican expeditions, between 1820 and 1830, with small capitals, that make them men of consequence in these parts.

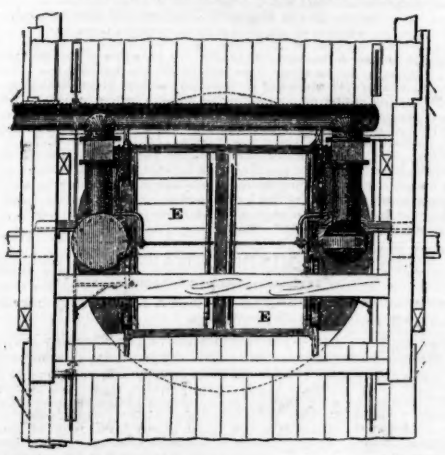
In the room that contains this collection and the models, a school is held in winter for miners, at which some of the officers occasionally lecture; and instruction in drawing is given at a very low charge. The castle in which the Bergamt is located was formerly the seat of the Catholic branch of the family of Nassau Siegen, the Protestant branch living in the castle at the top of the hill above the town. A huge round tower, adjoining the principal building of the former castle, contains the mapping department, the officers of which are bound to survey and lay down plans of mines and workings, on the requisition of the owners, for very moderate fees. The lower part of the same building is devoted to the laboratory, where any one, for an equally moderate fee, can obtain an analysis of any mineral he chooses to bring. It is curious that, within 20 paces of this tower, a building stands that has been appropriated to the use of a high school; and there the professor of chemistry, a man of scientific eminence, is equally ready to satisfy the doubts or the curiosity of the miners. The mining board has a valuable library of works relating to its department. The assays for the monthly auctions we mentioned are made at Müsen, which is 12 miles distant; and at Dillenburg, 12 miles in another direction, there are all the necessary facilities for testing minerals and obtaining chemical instruction provided by the Government of Nassau. The pleasant feature in these arrangements is, that the smallness of the fees taken on all occasions makes them equally accessible to the poor and to the rich. These are all encouragements to people to engage in mining in this district. If anybody applies for advice or directions how to proceed, there are alway officers at his disposal, whose knowledge of the country, and, indeed, of the leading features of most of the mines, is remarkable. The young men who devote themselves to the mining department are all highly educated. They usually pass from the grammar-school to one of the large mining academies in Saxony, or to the university; and after that, they commence practically as miners in the district they expect to be employed in. Beginning with the pickaxe and shovel, they are required to draw up memoirs on geological or mineralogical subjects, or on modes of treating knotty points in mining. They then usually go to some of the model furnaces, when they put on the leather skin that distinguishes the German furnace-man. The next step is that of a volunteer attached to a district mining-officer or jurat, who is sworn to protect the interests of the revenue, while he guides and assists the miners. In this position the candidate acquires a knowledge of the district, and when a vacancy occurs is prepared to occupy it. This branch of service is equally important with the forest department. Both present a body of highly-trained scientific officers, such as is scarcely to be found out of the Germanic territories in the civilised world. The district officer has the superintendence of from 100 to 200 mines, which keep him fully employed. Several districts are under the inspection of a Bergmeister, and the furnaces under a Hutten inspector. The four Bergmeisters, with the furnace-inspector, the head of the engineering department, under the presidency of a chief counsellor of mines, Oberbergrath, form the mining board of Siegen. Its jurisdiction extends from the Lonna to the Rhine, which bounds it on the west from Düsseldorf to Ehrenbreitstein. On the south it is bounded by the Duchy of Nassau.

[*To be continued in the Mining Journal of next week.*]

PNEUMATIC APPARATUS FOR THE WORKING OF MINES:

Also, for Facilitating the Ascent and Descent of Miners and Colliers; with a more Simple and Economical mode of Raising Ores, Drainage of Mines, and Improving their Ventilation.





DESCRIPTION.

A—Pipe to connect the tubes with the air-pump.

B—Atmospheric Tubes.

B′—Section of the atmospheric tube, showing the interior.

C—Frame connecting the two pistons.

D—Projecting arm (screwed to the above), from which the cage, or frame (E), is suspended, by which men and ores are raised or lowered.

E—The cage, or frame, above referred to.

F—The rollers, working within a slide, to open the slit, so as to allow the more ready passage of the projecting arm without friction.

G G—Levers and catches employed for holding the frames at the top and bottom of the pit or shaft.

H—Throttle valve, to regulate the power of the machine, by the degree of exhaustion required.

I—Ventilating tube.

K—Guide-rods, for steadying the cage, or frame, in ascending and descending.

On reference to the accompanying engravings, it will be observed, that the machine under notice is constructed on the same principle as that applied to the atmospheric railway, but far more perfect—being applicable to all descriptions of work required in a mine or colliery, whether the shafts, or pits, be vertical or inclined—while it may be also rendered available for drawing ores, or stuff, by horizontal levels, where the distance may be found to warrant the fixing of the apparatus, or machinery—as also for improving the ventilation. The principal object to which, however, it appears to be adapted, and where the advantage will be manifestly felt, is that of the facilities afforded in raising and lowering the miner, or collier, and also the extraction of the ores—the economy acquired being not less important than that of the security of life and the saving of time. It is hardly necessary to observe that, as regards the drainage of mines, the power is equally applicable as in raising ores, or lowering materials—while the benefits derivable from the economy of human power, must be at once recognised by the fatigue being in a great measure relieved. The wear and tear, attendant on the employment of ropes and chains, being thus obviated, a considerable saving is effected in these materials alone. The simplicity of the apparatus renders it little subject to get out of order, and which may be worked by steam or water-power, as may be deemed most convenient. It may be observed, that the power may be placed within the control of the men in the course of ascent or descent, and, consequently, remain stationary at any point of the shaft, where such may be desirable, or in cases of accident; nor is there any risk to be apprehended from the fall of the chain, in case of breakage.

The machine consists of two continuous slit wrought-iron tubes, placed parallel, connected at top, by means of a pipe, with the air-pump; each tube is furnished with a double piston, and a projecting arm passing through the slit of the tube, to which the cage, or frame, for raising and lowering, is suspended. The slits are rendered air-tight by the spring of the sheet-iron, of which the tube is constructed, and are opened by rollers, working between two flanges of a slide, or flat groove—and thus allowing the projecting arm to move up and down without friction.

It will be apparent, that a considerable saving is effected in the working of mines, or collieries, by the application of this apparatus; inasmuch that, although in its construction it may, in the first instance, be attended with an increased cost over that of chains or ropes, with the kibbles employed, as also the ladder ways, it effects a permanent saving, as the expenditure may be said to be confined to the working of the machine, and, as before observed, wear and tear, forming so important a feature in the expenses attendant on the workings of a mine, being thus avoided.

It may be further observed, that the two cages are perfectly independent of each other, so that the one may be in action while the other is in a state of quietude, or the two ascending or descending at the same time.

We have thus endeavoured to describe the machine, of which we append sketches, and which will best convey its nature and appliances—being ever anxious to furnish information on subjects tending to advance the interests of, or being connected with, our mines and collieries. It will be our object to acquire such further details from the patentee and others interested as may be in our power; and, in the meantime, we have to direct the attention of our readers and correspondents generally to the subject.

IMPROVEMENTS IN VENTILATION.

[Protected by registration, under Act 5 and 6 Vic., cap. 65. By Mr. Osmond Oliver, builder, Tottenham Court-road, London.]

Amongst the subjects to which the march of improvement continually calls the public attention, none perhaps are more deserving of notice, and in none have there been fewer real improvements discovered, than in this—ventilation. Now, this invention appears to effect all that can be desired, at least as far as buildings are concerned, and justly claims the support of every one.

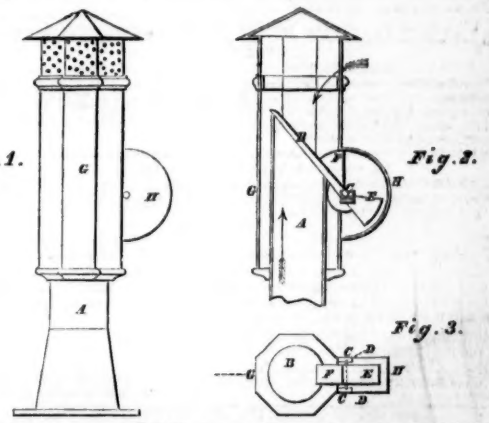


Fig. 1 of the accompanying diagram exhibits a front elevation of the ventilator complete; and *fig.* 2, a transverse and vertical section thereof, taken through the line A, B, at *fig.* 3, a top plan view exposing the internal arrangement of the parts. A, marks a circular metal pipe, the bottom of which may be formed square, as exhibited for fixing it to the ceiling or roof when used as a ventilator, or on to the brickwork of the chimney when used as a cowl, and the upper end of the said pipe, which is bevelled off at an angle of about 60°, is closed by a valve, B, which is arranged and constructed as follows:—C. C, mark metal centres firmly secured to the valve, and supported by pieces of plate-glass, D, D, upon which they roll, so as to occasion as little friction as possible; E, F, mark weights attached to the opposite end of the valve, for the purpose of counterbalancing the same with great nicety; G, marks an external casing, surmounted by a perforated cap; and H, the casing in which the valve is placed.

By this arrangement, it will appear evident that the slightest current of air passing up the pipe, A, will cause the valve to vibrate upon its centres; and any disposition of the external air to descend through the pipe, will have the effect of closing the valve, and thereby preventing a downward current of cold air. It will also appear evident, that the extent to which the valve opens is dependent upon the quantity of vitiated air passing through it, thereby rendering the ventilator self-acting—a most important and peculiar property. The simplicity of construction, durability, and inexpensiveness, are not the least of the recommendations of this apparatus, as they place it within the reach of the most humble; and when applied to the flue of a chimney, it has the effect of entirely obviating that intolerable nuisance—"a smoky chimney."

Patent-office and Designs Registry, 210, *Strand, July* 4.

NAUTICAL IMPROVEMENTS.—An iron ship, now nearly completed, will shortly be launched from the brewery-yard of its owner, Mr. Clay, a little below the Middle Dock, South Shields. This large vessel, intended, we believe, for the India trade, is being fitted up with Mr. Rumley's patent capstan and windlass—simple and ingenious devices, both founded on the same principal, by which a continuous action is obtained, and any requisite extent of speed or power may be secured. The patentee has applied both capstan and windlass to many vessels, since the invention was perfected; and parties who are curious in such matters, should request a peep at Mr. Clay's ship, where their curiosity will be much better gratified than by any description which we could give. Mr. Clay is also introducing Mr. Rumley's patent steering apparatus, by which ropes and pulleys are got rid of, and which admits of the raising of the rudder in cases of emergency, and its consequent preservation from injury.—*Gateshead Observer.*

IMPROVED LIFTING JACKS,

MANUFACTURED BY

W. AND J. GALLOWAY,

PATENT RIVET WORKS,

MANCHESTER.

IMPROVED RATCHET JACK.

HALEY'S PATENT LIFTING JACK.

*** The attention of parties who employ

Lifting Jacks,

is respectfully requested to the superiority of those annexed, over those hitherto in use.

THE EXPLOSION AT MANCHESTER.

HENRY BAKER begs to call the attention of ENGINEERS and PROPRIETORS OF STEAM-ENGINES, to his

NEWLY-IMPROVED STEAM-GAUGE,

which shows the PRESSURE and TEMPERATURE of the STEAM, as seen in the drawing annexed. It is an ornament to the engine-room, and supersedes the ordinary mercurial gauge in these respects, by not being so cumbersome, much cheaper, and warranted accurate.

It has been tested at the Polytechnic Institution, London, with satisfactory results; and, since the boiler explosion of the *Cricket* steam-boat, this gauge has been adopted on board the steam-boats plying on the River Thames.

Boiler explosions, in many instances, occur through steam-gauges not being in good working order; therefore, every attention should be paid to these very necessary adjuncts.

HENRY BAKER'S STEAM-GAUGES

may be FIXED in a COUNTING-HOUSE, and will SHOW the PRESSURE the same as if fixed in an engine-room—thereby having a check on the person working the engine.

Price .....£2 2s.

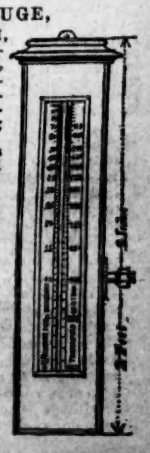
VACUUM-GAUGES,

In brass frames, showing the barometric scale, from 22 in. to 30 in.

Price .....£3 3s.

In mahogany, very elegant, showing the barometric scale in full.

Price .....£3 3s.



HENRY BAKER,

BAROMETER, THERMOMETER, AND PHILOSOPHICAL INSTRUMENT MANUFACTURER,

No. 90, *HATTON-GARDEN, LONDON.*

Mining Correspondence.

ENGLISH MINES.

BARRISTOWN.—Capt. T. Angove (June 30) reports—The adit end east is producing from 5 to 8 cwts. of ore per fm., with a very pretty gossan lode; the winze sinking in the bottom of the adit level is down 6 fms.; the lode is large, but producing a small quantity of lead. The cross-cut, south of eastern flat-rod shaft, has to be driven about 6 ft. further, to cut this lode, and to be holed to the winze. The pitches are producing about the same quantity of lead; although in the back of the adit they are getting near the surface, and we cannot expect a much further quantity from them.

BEDFORD UNITED.—Capt. James Phillips (July 5) reports—At Wheal Marquis, the ground in the engine-shaft is still favourable for sinking. In the 90 fm. level east the part of the lode being carried is 2 feet wide, and worth 14*l.* per fm.; in this level west the lode is still poor; the stopes in the back of this level are worth 30*l.* per fm.; and in Hodges's rise, in this level, the lode is 18 in. wide—saving work. In the 80 fm. level east the lode is 20 in. wide, and worth 5*l.* per fm., and promising further improvement. In Evans's winze, in the 70 fm. level, the lode is 5 ft. wide—good saving work. We weighed, at Morwelham, on Friday last, April ores, 67 tons 7 cwts. 2 qrs., and 38 tons 13 cwts. 2 qrs., and sampled May ores, computed 105 tons (21 cwts.)

CALLINGTON.—Captain J. T. Phillips (July 3) reports—In Kelly Bray engine-shaft, sinking below the 35 fm. level, we find the ground much improved, and favourable for sinking. In the winze, below the 25, the lode is rather hard and poor. In the 60 east, at the north mine, no lode taken down; from the appearance we calculate a profitable one. In the 70, the lode is 3 ft. wide—hard and poor; in the winze, below this level, the lode is producing stones of copper ore; the stopes at this time are not looking quite so well; will produce on an average from 3 to 4 tons of ore per fm. In the 90, we have an increase of water, and expect the cross-course is just at hand. In the north engine-shaft the ground is a little more favourable for sinking below the 100; in this level driving south no alteration has taken place. In the 90 south we are opening tribute ground. At the south mine, in the 125 fm. level north, the lode is 10 in. big, composed of fluor-spar, intermixed with silver-lead ores. In the 112 fm. level north the lode is small and poor. In the 100 fm. level north we are opening tribute ground.

CARADON UNITED.—Capt. Penrose (June 26) reports—We are cutting a plat in the 38, north of shaft, and have got into hard ground, and, from present appearances, we are likely to have it all over the shaft in 4 fms. deeper; when we have completed the plat, we intend to drive to north-west, and cut Morshead's lode, and then drive on it west, to intersect the cross-course that we have seen 7 fms. deep. About 7 fms. west of engine-shaft, at this point, we are likely to get into more settled ground. In the 28, Morshead's lode, and also the little copper lode, make a good appearance; and if they continue to improve in depth, they will make productive lodes. To-day I have inspected West Caradon. In the 50, on Jope's lode, they have a course of ore, worth, I judge, 100*l.* per fm. I tried the dial on it, and if it keepsits course, it will come near our engine; and, from its character, most likely it is Morshead's lode here. Their main lode and Jope's lode, I consider, cross each other about 150 fms. to the east of our mine; and I have every reason to believe we have both their main lodes, and also Jope's, in the Tor sett, with the whole of South Caradon south lodes; this is according to their present course. I find in West Caradon they have some fine courses of ore in and about their elvan courses. In the Tor we have two elvan courses, and have also cross-courses; therefore, I consider we have equally as good a chance to have as good a mine here as they have in West Caradon. I also consider our lodes to be quite as likely to be productive as theirs. Another agent, who has lately inspected the mine, writes—I congratulate you on the prospect you have in Caradon United. The mine is 50 times as good as I ever expected to find it. Morshead's lode, in the 28, going east, is a splendid thing; and you may take it for granted from me, that if the lode be fairly tried, you will have a good mine; I think it somewhat superior to any lode I ever saw in the same position—that is, in decomposed granite.

COATLITHE HILLS.—Capt. M. Paull (June 17) reports—We have sunk to the bottom of the hazel bed, but have found no material alteration in the vein; I have put the men to drive westward—and in a short time, if the vein is found productive, I should recommend a deeper level being brought in from the side of the hill, as it is most disadvantageously situated for working, and which would be requisite, in order to open out the mine effectually.

CWM ERFIN.—Capt. Samuel Nicholls (July 1) reports—The men in the engine-shaft have not taken down any of the lode this week; they are down 3 fms. The men in the whim-shaft have sunk 7 ft. this week, and the lode is just as last reported, and by the end of next week we shall be down nearly 11 fms.; some of that will be for a fork to hold water. In the 10 fm. level east we have not done anything the last week, on account of clearing the stuff in the stopes; the stope west of whim-shaft is worth 6 cwts. of ore to the fm.; the stope east of whim-shaft is worth 8 cwts. of ore to the fm. The stope west of the eastern shaft is worth 6 cwts. of ore to the fm.

DEAN PRIOR AND BUCKFASTLEIGH.—Captain H. Choake (July 5) reports—The sumpmen are getting on with the sinking in the engine-shaft with spirit—sunk in the past week 6 ft. Should the ground continue as favourable as at present, I expect to get the shaft down for a 40 fm. level, or nearly so, by the end of this month. In sinking in the bottom of the 30 fm. level the lode maintains its size and quality, composed of mundic, capel, and spar, and producing some saving work; these indications show the strength of the lode in going down. The lode in the pitch, in the bottom of the 20 fm. level, is rather improved since my last report, and producing some good work for copper.

DEVON AND COURTENAY.—Capt. N. Seccombe (July 4) reports—In the end, driving west on the gossan lode, in the 40 fm. level, the lode is 20 in. wide, composed of spar and mundic, mixed with killas, and interspersed throughout with branches of ore. The winze sinking on the south lode, in the same level, is suspended until the lode is cut in the level below; the men will be employed in stoping the orey ground east of the winze. In the end, driving north on the slide, in the 40 fm. level, to intersect the gossan lode, the ground continues favourable for driving. In the 50 fm. level the men continue to drive east through the cross-course to cut to the south, and also the gossan to the east, of it. The cross-course in this place appears to be large, and the ground rather harder than was anticipated.

DRAKE WALLS.—Capt. R. Williams (July 3) reports—In the stopes, below the 50 east, at Brenton's engine-shaft, no alteration since my last; in the 50 fm. end, east of Brenton's there is a good branch of tin; this end is only worked occasionally by the sumpmen. In the stope, east of Brenton's, below the 40, there are good branches. Machine-shaft is tinny, not rich; in the stopes, east of machine shaft, good saving work; in the stopes, east of machine shaft, in the 33, and also the 33 end, good work, the end particularly. We sampled the 29th May, computed 17 tons of tin.

EAST CROWNDALE.—Capt. S. Paull (July 1) reports—The lode in the 58 fm. level, driving west, still holds on to be upwards of 4 ft. wide, composed chiefly of mundic, capel, flookan, and sometimes good stones of ore; the ground in this end is changed much for the better since my last report; the 58 fm. level east is a very promising end—the lode is about 4 ft. wide, composed of capel, spar, mundic, flookan, good stones of lead, and spots of copper ore; the 58 fm. level north is a hard spare end, and very wet; and, I consider, from the appearance of the ground, we cannot be far from the north lode. The men in the engine-shaft, at Rix Hill, have again resumed sinking; the lode is not so large as it has been—it is not quite 2½ ft. wide, composed of capel, elvan, peach, spar, and spots of tin. The men in the adit level, at Rix Hill, on the south lode, have been engaged a part of the past week stoping a piece of ground in the bottom of the level, to let down some water; the end looks equally as good as when last reported upon, and is of the same size. The old men's shaft, on the back of this lode, mentioned in my last report, is cleared out; it is 7 fms. 3 ft. deep; the water being quick, we shall raise to hole to it from the adit level. We sampled, on Friday last, about 22 tons of rich copper ore.

GREAT MICHELL CONSOLS.—Capt. T. Richards (July 5) reports—The lode in the 45 fm. level, east of the sump-winze is without material alteration, containing mundic, spar, and fluor, with good stones of ore; in this level west the part of the lode being carried 4 ft. is in its general character very promising, containing mundic, spar, and capel, producing in places good stones of ore. In the 35 fm. level, west of the sump-winze, the lode has much the same appearance, consisting of an abundance of mundic, capel, and spar, with a small proportion of black and yellow ore intermixed throughout.

HOLMBUSH.—Capt. W. Lean (July 4) reports—We have put the shaftmen to cut a plat in the 132 fm. level, preparatory to sinking below that level. The lode in the 132 fm. level, west of the diagonal shaft, is still in a disordered state, not having yet got through the small cross-courses. The lode in the 120 fm. level south, as well as the back of the level, will produce half a ton of lead per fm., and is set to 10 men, to be wrought at 5*s.* in 1*l.*, on the value of the lead only. The lode in the 110 fm. level south is 4 ft. wide, composed of quartz and lead, worth 4*l.* per fm. The lode in the 100 fm. level south is 3 ft. wide, producing saving work, and promising further improvement; the flap-jack lode, in the same level east, is 2½ ft. wide, composed of mundic, prian, and spots of ore, the ground more favourable for exploring—set to six men, at 4*l.* 10*s.* per fm. The lode in the 90 fm. level south is 2 ft. wide, composed of soft spar and stones of lead—saving work for the stamps. A tribute pitch, on copper, in the bottom of the 110 fm. level, between the great cross-course and the lead lode, has of late very much improved, and is now set to six men, at 4*s.* in 1*l.* We weighed, at Calstock Quay, on Thursday last, April and May copper ores, 88 tons 13 cwts. 2 qrs.; and we have sampled a parcel of silver-lead ores, computed 30 tons, samples of which have been sent to the lead-smelting companies, to be tendered for, on or before the 12th inst., agreeably with circular.

KIRKCUDBRIGHTSHIRE.—The agent (July 1) reports—The 50 end, west of Stewart's shaft, on the main and north lodes, is much the same as last reported. In the 40 end, west of Keith's, the lode is 2½ ft. wide, yielding about 1 ton of ore per fm., a kindly looking lode. In the 30 end, west of this shaft, a large coarse lode, worth half a ton per fm.; in the same end, east of Stewart's, the lode is 2 ft. wide, with a good branch of lead on the north wall. We hope to ship a cargo of lead next week.

LEWIS.—Captain S. S. Noell (July 1) reports—In the 70 fm. level, west of sump whim-shaft, we have commenced to drive south, west of the cross-course, in order to get under this fine course of tin, which we have in the 60 for several fathoms in length; the lode in the 70, west of sump-shaft, on the south branch, is very much improved since my last. The lode in the 60 east is 2 ft. wide, saving work for tin; the lode in the 60 east, on the south branch, is producing some hard tin ground; the lode in the 60 west, on the south branch, is 6 ft. wide, worth 70*l.* per fm. The lode in the 50 east is 6 in. wide, worth 2*l.* per fm. The lode in the 40 east, on the south branch, is 6 in. wide, worth 6*l.* per fm. The south lode, in the 20 east, is 8 in. wide, worth 3*l.* per fm. The south lode, in the 10 east, is 1 ft. wide, worth 6*l.* per fm.; the north lode, in the 10 fm. level, west of Bush shaft, is 15 in. wide—saving work for tin.

SOUTH WHEAL BETSEY.—Capt. J. Spargo (July 6) reports—In driving west from the deep adit, we have cut a large branch, which we expect is the property of the new lead lode; we thought it at first to be the main lode; but, by examining it at surface, we find that there is a branch running about 6 ft. east of the lode, parallel to the lode; we have cut into it about 2 ft., from which we have broken some excellent stones of lead, and still continue to do so. We can see no sign of any wall as yet. It is composed chiefly of soft spar and rich stones of lead—in fact, what we have seen of it will produce good work, and we are daily expecting a greater improvement. The lode at the surface is 5 ft. wide, with the richer gossan; and, according to its underlie, we have about 6 ft. further to drive to cut it, which will be 40 fms. deep from surface. The ground in the east cross-cut is still continuing favourable for driving; but, if the statements made by an individual, who professes himself to be far superior to other agents, be correct—that the Wheal Betsey lode is the one we are driving west to cut—all that we are doing, and have done, east is in vain; as he states, that there is no lode before us, and that the above lode is hove upwards of 60 fms. west. Now, I must say that this statement is altogether erroneous: never was it yet known, that a north and south course was hove by an east and west course. I have seen a north and south course disordered by an elvan, which came in contact in an oblique direction; but I never saw, or heard of, one thrown out of its course. It is true, that there are slanters that cross a north and south course, that do not form a right angle; that has a tendency to warp, or, as the miner terms it, make a flank in the wall; but, like the strong man captured by the weak, it forced its direct course through all opposition; and not only so, we can trace both the lodes at the surface for nearly half a mile in length, running parallel with each other; and on Wheal Betsey lode there have been pitches set on tribute in the bottom of the shallow adit, about 7 fms. deep from surface—and, with great difficulty and expense, we forked the water out of those workings, so as to be convinced of the truth of the statements made by the different miners in the neighbourhood. I found the lode in the bottom of those workings to be about 2 ft. wide most excellent work for lead—and broke, with my own hands, stones of solid lead from 7 to 10 lbs. in weight; this lode underlays west about 1½ ft. in a fathom; the new lode underlays east about 15 in. in a fathom—therefore, it is altogether against the laws of Nature for those to be one and the same lode. I would, therefore, advise that individual, before he makes such statements again, to ask himself the following questions:—What mine have I laboured in, with pick and gad, so as to know or experience the different changes of ground?—or what pitches have I taken on tribute, so as to qualify me to be such a man as I think myself?—or in what country, or mine, have I seen a north and south course hove by an east and west one?

SOUTH WHEAL TRELAWNY.—Capt. W. Jenkin (July 3) reports—We have sunk Snell's engine-shaft 2 fms. below the 30. We have also cut ground for cistern. We have made a beginning to fix the plunger-lift with the same men and others driving cross-cut. After the plunger-lift is fixed, we shall commence with a full supply of men in cross-cut ground still favourable.

TAMAR SILVER-LEAD.—Capt. J. Sprague (July 3) reports—The sump men are engaged cutting ground for bearers and cistern, and other work, preparatory to sinking the shaft. In the 175 fm. level, north of the shaft, the lode is 9 in. wide—saving work; in the same level south the lode is 3 ft. wide, composed of spar and capel, interspersed with silver-lead ores throughout. In the 160 fm. level south the lode is 2 ft. wide, 6 in. of which is rich work. In the 145 end the lode is 2½ ft. wide, 18 in. of which is good saving work. In the 135 end the lode is still 3 ft. wide, composed of can, capel, and ore—very promising. In the winze, in the bottom of the 160 fm. level, the lode is 18 in. wide, yielding work of a moderate quality. In the winze, sinking below the 145 and 135 fm. levels, there has been no lode taken down since last report. At the north mine, the engine-shaft is sunk 9 ft. below the 70 fm. level; the ground appears a little more favourable for sinking; in the 70 end the lode is 2½ ft. wide, intersected with ore throughout, but not rich. In the winze, sinking below the 60 fm. level, the lode is 3 ft. wide, composed of can, mundic, and ore—saving work. We sampled, on the 7th inst., computed 75 tons of silver-lead ores.

TINCROFT.—Capt. Peter Floyd (July 3) reports—On Highburrow lode the 142 fm. level east is worth 14*l.* per fm. The stopes in the back of the 120 fm. level are worth 15*l.* per fm.; Martin's lode, west of the engine-shaft, in the 120 fm. level, is worth 18*l.* per fm. Chapple's lode, in the 100 fm. level west is 2½ ft. wide, with spots of ore. The lode in the 90 fm. level west is worth 18*l.* per fm. The 80 fm. level west is as last reported—*i. e.*, worth 16*l.* per fm. Dobres' lode, in the 58 fm. level east, is worth 4*l.* per fm.; the lode in the 58 fm. level west is 18 in. wide, with spots of ore. On Wheal Druid lode, in the 33 fm. level east, the lode is 2½ ft. wide, with some ore; in the 33 fm. level west the lode is 2 ft. wide—kindly, but poor. At North Tincroft, the lode in the 100 fm. level west, we have not as yet cut the lode, but expect to cut it shortly. The lode in the 90 fm. level east is worth 8*l.* per fm.; the winze, in the bottom of this level, is worth 7*l.* per fm.; in the 90 fm. level west the lode is worth 5*l.* per fm. In the 80 fm. level east the lode is worth 10*l.* per fm. In the 60 fm. level east the lode is 4 ft. wide, and tinny. On East Pool lode, in the 80 fm. level west, the lode is worth 6*l.* per fathom. The 70 fm. level west is as last reported—*i. e.*, at present disordered, being intersected by various small cross-courses.

TRELEIGH CONSOLS.—Captain Wm. Symonds (June 30) reports—The 120 fm. level, east of Christoe's, is driving on the slide in search of Christoe's main lode, east of cross-course. The cross-cut south, in the 80, east of Christoe's new, to cut a south lode, which has been seen in Christoe's shaft in a north direction. Garden's shaft, below the 100, is sinking in the country; in the 100, west of ditto, the lode is about 3 ft. wide, orey, but not to value; the cross-cut south, in the 100 west (new), will be driven on; the cross-course, 20 fms. west of Garden's, is intended to cut a south lode. The cross-cut south, in the 90 west, to cut a south part of the lode; the 90, east of Garden's, will be driven east from the cross-cut on a north part of the lode. In the 80, west of ditto, the lode is 18 in. wide, producing stones of ore only. In the 70, west of ditto, the lode is 2 ft. wide, producing a small quantity of ore, with a promising appearance. In the 60, west of ditto, the lode is 18 in. wide, disordered by a slide at present. In the 50, west of ditto, the lode is 2 ft. wide, yielding stones of ore only. Wheal Parent engine-shaft, below the adit (new), will be sunk in the country; in the adit east, on Wheal Parent lode, the lode is 3 ft. wide, of a very promising character, with stones of ore, not to value; the adit cross-cut, north of engine-shaft, to cut Wheal Orphan lode.

WEST WHEAL JEWEL.—Capt. Richard Johns (July 3) reports—In the 70 fm. level, west of Williams's cross-course, on Wheal Jewel lode, the lode is 2 ft. wide, worth 7*l.* per fm.—drove last month 3 ft. 6 in. In the 57 fm. level, west of Williams's cross-course, on Wheal Jewel lode, the lode is 3 ft. wide, worth 12*l.* per fm.—drove last month 1 fm.; in the 57 fm. level east, on the same lode, the lode is 15 in. wide, worth 6*l.* per fm.—drove last month 2 ft. 6 in.; in the rise, in the back of the 57 fm. level, on Williams's cross-course, rose last month 3 fms. 4 ft.; in the deep adit, west of Hodges's cross-course, on the same lode, the lode is 9 in. wide, saving work—drove last month 1 fm. 3 ft. 6 in. The 30 cross-course, south from Tolcarne lode, is suspended—drove last month 2 ft. 6 in.; in ditto west, on Tolcarne tin lode, drove 5 ft. In the deep adit, west of Quarry shaft, on the same lode, the lode is 2 ft. wide, producing stones of tin—drove last month 5 ft. 6 in. In Tregoning's shaft the ground is much harder for sinking than it has been—sunk last month 2 fms. 3 ft. 6 in.

WEST WHEAL MARIA.—Capt. Thomas Rodda (July 4) reports—In the western engine-shaft we have reached the north wall of the lode in the cross-cut south, in the 74 fm. level, but we have not cut into it to ascertain its size; and it appears to be very hard to get through. The south lode, in the 34 fm. level, west of Vivian's shaft, appears to have made a splice, or horse, so called; and we have driven on the north part, supposing it to be the main part; but we find it to be declining away. I have set the men again to drive, and to incline south, to prove whether the south part is or not the main part.

WHEAL MARY ANN.—Capt. Peter Clymo, jun. (July 3), reports—The lode in the 40 fm. level, south of Barratt's shaft, is 2½ ft. wide, and worth 20*l.* per fm. The lode in the 30 fm. level, south of Barratt's shaft, is 3 ft. wide, and worth 5*l.* fm. The lode in the 30 fm. level, north and south of Pollard's shaft, is 1½ ft. wide, very promising, and producing some lead. Pollard's shaft is sunk 8½ fms. under the 30 fm. level. The stopes generally are looking well.

WHEAL TRELAWNY.—Capt. John Bryant (July 4) reports—The ground in Phillips's shaft, below the 62 fm. level, is still favourable for sinking; but suspended for a few days to repair the same against the steam whim is in work, which we expect will be on the 13th inst.; the lode in the 62 end south is disordered; I expect the main part is to the west, which will be proved in two or three days; in this level north the lode is much the same as last reported, worth 7*l.* per fm.; the lode in the rise, in the back of this level, is worth 5*l.* per fm. In the 52 fm. level north the lode is 1 ft. wide, composed of ore and lead, worth 8*l.* per fm.; in this level south the lode is without any material change since last reported on—there being a great quantity of water in the winze sinking under this level; it is suspended for the present, as we are daily expecting it to be drained by the rise in the back of the 62; the stopes, in the back of this level, are yielding a fair quantity of ore. The lode in the 42 fm. level north is worth 5*l.* per fm.; the stopes in the back of this level are improved since my last report. We have commenced sinking Trelawny's shaft, under the 52, where there is a great quantity of ore, intermixed with the killas, which makes it troublesome for working. There is no change of consequence in the 52 cross-cut west, or the 22 cross-cut east, of this shaft. At the north mine, we have cut a plat and sunk Smith's shaft 8 ft. under the 30 fm. level, where the lode is worth 4*l.* per fm.; the lode in the 30 fm. level, north of this shaft, still presents favourable indications, and is yielding good stones of ore.

WHEAL SARAH.—Capt. J. Spargo (July 6) reports—We have suspended the engine-shaft for a day or two, until our whim is erected. The shaftmen are engaged in bringing up the lobby, and preparing a whim round, &c. We have this day taken down the capstan at Wheal Martha, and shall get it, together with the whim, on the mine on Saturday. The waggons have just started from Chilsworthy Beam Mine with the windbore, doorpiece, &c. The last time the shaftmen worked in the shaft they intersected a branch of barytes, and the ground around it seemed much softer. We shall commence sinking again after the whim is erected. We have two men stoping in the 9 fm. level, and are breaking good work. We have discovered another lode to the west of the middle lode, with good spots of lead in the gossan; we cannot tell its size, as we have but just opened on it; but in the Antimony Mine adjoining they have opened on it, of a very promising character; and the lodes, which are so promising in their sett, all pass through Wheal Sarah. Perhaps I should not offend the Antimony Company, if I were to tell them that the excellent indications they have already discovered, justify a more vigorous operation; and that an engine-shaft, at this present time, ought to be in full course of working.

WHEAL TREMAYNE.—Captains John Phillips and William Blewett (July 1) report—The flat-rod shaft is sunk 2 fathoms below the 80 fathom level; the lode is 10 in. wide, producing good stones of copper ore—a very kindly lode. At Thomas's shaft, in the 30 fm. level, on the south lode, the lode is 2½ ft. wide, producing 2 tons of ore per fm. We have driven through about 30 fms. of good ore ground; for the last 20 fms. driving it has produced 2 tons of ore per fm.; and we have about 20 fms. more to drive to intersect the flookan. The water in Wheal Margaret shaft is gone down 7 fms. under the 10 fm. level; and we hope, in the course of six or eight weeks, to have this part of the mine all dry to the 30 fm. level. Field's shaft is sunk 15 fathoms under the adit level; the lode is 18 in. wide, producing good stones of copper ore—a very promising lode, and the ground favourable for sinking. We hope to get this shaft holed to the 30 fm. level in the course of four or five weeks, which being done will ventilate the level, and afford facilities for taking away the stuff. The other parts of the mine are much the same as last reported.

WHEAL VINCENT.—Capt. J. Spargo (July 6) reports—The deep adit is driven on the north lode about 25 fms.; the lode varies in size from 1 to 2 ft. wide, composed of fluor-spar, wolfram, spots of black and yellow copper, and good stones of tin. We have about 12 fms. farther to drive before we get up to the bunch of tin gone in the bottom of the shallow adit, and there is no doubt but that it will prove satisfactory, as the late company made good returns from the above in the bottom of the shallow adit, where they sunk as deep as they could go for water. After we get up under the old workings, we shall have about 8 fms. of backs from the bottom of the shallow adit, which we intend to stope for the stamps; the horizontal bearing of the lode is about 10° south of west, with two most beautiful and well-defined walls, underlaying about 2½ ft. in a fm. There is a soft flookan branch, that runs between the footwall and the lode, which carries a great deal of tin; it is also advantageous for driving the end. We have cut two other lodes by shoding between the north and south lodes, one of which carries tin; in the other we have not opened sufficiently to see anything of its quality or size, which I shall speak of next week. Since we commenced driving the cross-cut, to cut the south lode, the water in the shaft, sunk on the course of it from the surface, is decreased; and, as we drive on, we expect to drain those bottoms where the two men broke 300 cwts. of tin in eight hours; here we hope to make some good returns. We intend to commence sinking a new engine-shaft next week, so as to intersect the lode at a deeper level; and there is every reason to expect a great improvement in depth, as the granite in the valley is soft for sinking, and the lodes run direct through it.

FOREIGN MINES.

ALTEN MINES.—Report from the 31st May to the 20th June:—

Raipas.—Although the returns from the several workings at this mine have still been subject to fluctuations, the general prospects continue to make a gradual, but steady, improvement. The 20 fm. level has been commenced on Labouchere's lode, at the bottom of Monk's shaft; the appearance of the lode is regular and favourable, and the returns of ore are good and remunerative. The 15 fm. level has been less productive, and the lode has latterly been subject to frequent and sudden changes; but, on the whole, it cannot be said to have deteriorated. The rich branch of ore, intersected three weeks ago, proved only a small caunter vein, of short duration, which did not assist in increasing the returns so much as we had expected. This level continues to leave fair reserves of orey ground for the future stopes. The prospects of the 10 fm. level have somewhat improved, and the workings in this part of the mine are yielding rather more than the average returns, with a much more permanent appearance than for some months past. The 5 fm. workings, in the eastern part of the mine, continue to make a favourable development; but, I fear, that we shall still be subject to impediments from the loose ground, before we are able to properly secure the run in shaft No. 2. The workings in other parts of the mine continue fair; and, on the whole, the prospects have not been more cheering for many months. The produce has also increased; and, I hope, towards the close of this month, when we are enabled to resume the usual deliveries to the smelting-house, that the quality will likewise show a material improvement.

United Mines.—The returns are still satisfactory, and the prospects have undergone no change; Ward's lode continues to yield the usual good returns, and the tributers at Woodfall's, Hoskin's and the New Lode, are equally successful.

Old Mine.—No change is to be noted, and we have still every reason to feel satisfied with the result of our operations.

Ryper's.—Some small returns of ore of a very superior quality have been made by the tributers employed here, but a scarcity of workpeople prevents our exploring this mine so fully as we could desire. We hope, however, to be able to do so more effectually as the summer advances.

Mancur's.—No further improvement can be noted—the tribute returns have been remunerative, but we are unable to increase our operations, for the same reason as assigned for Ryper's.

Michell's.—Still frozen out of the mine, our operations are necessarily confined to the surface, and in the old halvan heaps and attle burrows on a limited scale. The cost is here very little, and is fully covered by the returns.

Cole's.—A horse of deorite has again divided the lode, and marred the fair prospects held out in my last report; the lode still continues large and regular, but it contains less ore; we, however, consider it advisable to explore it a little further, before steps are taken for suspending it altogether.

Powder-House, Church, Carl Johan's, and Wilson's have not been worked, through a scarcity of workmen.

New Lodes.—The tributers in Mathisen's Valley are still making good, although not rich, returns. Rich purple of ore, of 40 per cent., is found thickly disseminated throughout the limestone stratum, but the average of the whole will not exceed 5½ or 6 per cent. The operations leave a remunerative profit. We have also commenced the preparatory work for exploring the new lode, near Milsvig, but the weather has latterly been very unfavourable, with cold winds and snow storms; and our progress, so high in the mountain, without any shelter for the people, has hitherto been exceedingly slow, and subject to every inconvenience and daily impediments. We cannot, however, expect to do much before next month, when we hope the weather will prove more settled, and enable us to get under cover before the winter sets in again.

Ore Dressing.—The cold unfavourable weather has again put a check to our proceedings in this department; but the little work hitherto performed by the stamps and separators has yielded a satisfactory result. Our summer can scarcely be said to commence before the month of July. Whilst I write, and although so close on St. John's day, it is snowing heavily. In the course of a few days, however, we may expect the weather to be as excessively hot as it is now cold.

MINING NOTABILIA.

[EXTRACTS FROM OUR CORRESPONDENCE.]

ANTIMONY AND SILVER-LEAD MINES, ST. KEW.—They have a fine course of lead ore in their new lode in this mine.

CAMBORNE CONSOLS.—The directors resolved, on Thursday last, that the resident director of the mines should immediately proceed to Camborne to commence active operations upon the several lodes already laid open by the adit, 40 fms. deep, and also to drive a cross-cut from Martin's shaft, now sunk to the depth of 80 fms., by which means the company will at once be in a situation to explore the lodes at that depth free of all expense for machinery, which is an unprecedented fact in the annals of Cornish mining. From the setts being situate in the centre of the most productive mineral ground in Cornwall, we anticipate great success in this undertaking.

SOUTH WHEAL BETSEY.—The ground is much softer for driving; they have about 8 ft. further to drive to cut the new lode, which is south-west of the other, and about 3 or 4 fms. to drive to cut the main lode, and will cut both in about four weeks, should the ground continue as favourable as at present.

— I am glad to inform you, that they have cut a lode westward, but whether it is the main lode or not they cannot say as yet—it contains fine stones of lead, and as splendid a spar as can be seen; they have cut in about 2½ ft., but I cannot tell how large the lode is; they think there is another lode not very far off; if they do not cut another, this is of a most splendid appearance. Capt. Spargo was there last night and saw the lode, and pronounced it to be as fine a lode as he ever saw, without a course of lead. Another party belonging to Mr. Hitchens has commenced shoding on Blackdown to cut this lode. As soon as they have ascertained its size and other particulars, I will immediately advise you.

GWINEAR CONSOLS.—They are progressing highly satisfactorily here; and I am happy to inform you, that the ore now coming to surface is equal to the best quality I have seen for the last month.

WHEAL TREGORDEN.—We have agreed with Mr. West for the use of a small steam-engine, which will put us down about 30 fms.; this will satisfy us where to fix a larger engine, to effectually work the mine, without going to the expense of a heavy outlay at once. The shaft is sunk 7 fms. 4 ft., where the lode is worth, at least, 15*l.* per fm. I expect we shall get the engine to work in about six weeks.

GWINEAR CONSOLS MINING COMPANY.

A general meeting of shareholders was held at the Lanyon Arms, on Monday last, the 3d inst., when a call of 1*l.* per share was declared, for the purpose of paying off liabilities, and the further prosecution of the mine. Messrs. E. M. Barrett, Isaac Heywood, Alex. Fitzgerald, and Wm. Headland, were appointed the London committee of management; and it was resolved, that all future meetings and correspondence be at the office of Mr. T. P. Thomas, George-yard, London. Other resolutions, of a financial character, were adopted; but being of interest only to the shareholders generally, we omit them.

The following statement of accounts, was then passed unanimously:—Mine cost for March, April, and May, 391*l.* 15s. 4d.; merchants' bills for ditto, 107*l.* 15s. 10d.=499*l.* 11s. 2d.—By ores sold, April and June (less lord's dues, 9*l.* 13s. 3d.), 164*l.* 5s. 6d.; deduct tinstuff sold, 1*l.* 0s. 7d.=334*l.* 5s. 1d.; balance, end of February, 300*l.* 2s. 7d.=634*l.* 7s. 8d.—By call on 256 shares, at 1*l.* 10s. per share, 384*l.*—leaves balance of 250*l.* 7s. 8d.

The following reports from Capt. H. Stephens were read to the meeting:—

The stopes in the back of the 10 fm. level were set last month at 1s. in 1*l.*; they are not so good as they have been, but are set to day at 4s. in 1*l.*, and I think fair wages; there is another pitch set in the back of this level, adjoining the above, at 7s. in 1*l.* The 10 fm. level east is still hard, but I think approaching a change. There is a winze commenced sinking under the 10 fm. level—sunk now 4 ft. in a very promising lode, with good stones of fine black and yellow ore, and much improved in sinking. The 20 fm. level is not good, but the eastern end is promising, and a lode 7 ft. wide.

July 1.—There is no particular alteration since my last, except the winze sinking under the 10 fm. level, which is obliged to be suspended, the water being too much to continue it; but when we cut the slide in the bottom end west, it can be resumed again, which I hope will be next week.

The 25 tons of copper ore now for sale are not in the foregoing balance, and by assay give a produce of 22⅛ for 5 tons, and 12¾ for 20 tons.

TRELEIGH MINING COMPANY.

The quarterly meeting of shareholders was held at the offices, Old Broad-street, on Monday last, the 3d inst.

G. B. Carr, Esq., in the chair.

Mr. Nicholson (the secretary) read the notice convening the meeting, and the following report from Capt. W. Richards, the agent:—

July 1.—I am sorry it is not in my power to communicate anything new to lay before the shareholders on Monday next. Our levels generally are poor; still in many of them there is a favourable appearance, and I am not without hope they will improve ere long. Some of our pitches continue to produce a fair quantity of ore; and, had the standard of copper been better, we could raise a larger amount. At Christoe's, we continue the 120 south on the cross-course, and hope soon to see the lode. I have also thought it advisable to drive south in the 80, as I expect a lode not far distant. Garden's shaft continues hard, but I expect another month will put us down to the 110, when we shall have to drive north to the lode, as it does not appear to underlie so much as we expected; and I have commenced a cross-cut south in the 100, as we have met with several branches lately coming in from the south, and I expect there is a lode not far distant. At Wheal Parent we have begun to build the engine-house, which I expect will be completed by the end of this month, and, the water being abated, have resumed the shaft: in order not to increase hands, we have reduced the number in other places. I am happy to say, the standard advanced about 3*l.* on Thursday last, and our ores sold better than I had anticipated. Although our levels generally have not turned out so well of late as we expected, I still entertain a very favourable opinion of the mine, and feel no doubt Wheal Parent will be a valuable assistance to us.

From the statement of accounts, it appeared that the balance from previous account was 2198*l.* 15s. 10d.; ores sold, 2223*l.* 2s. 2d.—together, 4421*l.* 18s.—By cost, 1340*l.* 3s. 4d.; merchants' bills, 307*l.* 1s. 9d.; lord's dues, 139*l.* 12s. 9d.; dividend, 1219*l.* 15s.; reserved fund, 125*l.*; sundries, 90*l.* 2s. 6d.—leaving a balance in favour of the mine of 1200*l.* 2s. 8d. The total assets amounted to 1739*l.* 14s. 8d., exclusive of 575*l.* reserved fund, against 977*l.* 9s. 7d. liabilities.

The Chairman observed, that although things did not look over bright, they had no occasion for despair. Through the low figure of the standard, they were induced not to take out more ore than would just pay cost; they could, however, raise a much larger quantity; and he hoped, when things became a little more settled on the continent, there would arise an increased demand for copper, and the standard would go up.

A vote of thanks was passed to the chairman, and the meeting separated.

WEST WHEAL SETON MINING COMPANY.

A general meeting of shareholders was held at the account-house on Tuesday, the 27th June, pursuant to notice, when the following statement of accounts, for March, April, and May, were produced:—Tutwork and wages, 620*l.* 10s. 10d.; merchants' bills and materials purchased, 267*l.* 8s.; balance end of Feb., 360*l.* 8s. 2d. = 1248*l.* 7s.—By call declared 28th March, 1000*l.*—leaves balance of 248*l.* 7s.—The accounts were allowed, and a call of 5*l.* per share made, payable at the Cornish Bank, Redruth. The following report from Captain John Lean was read to the meeting:—

The engine-shaft is sunk 9 ft. below the 30 fm. level; a plat has been cut, bearers and cisterns put in, and lift fixed, and the shaft set to sink 10 fms. deeper at 22*l.* per fm. The south shaft is sunk 10 fms. under the 30 fm. level, the lode in this shaft is large, with a branch of ore on the south part, producing 1½ ton per fm.; the 30 fm. level, west of this shaft, is extended 16 fms.—lode large, and good stones of ore; in the 30 fm. level cross-cut north, we have cut a lode, with spar and stones of ore—have cut into it 18 in., but no north wall. We have communicated the winze from the adit to the 18 fm. level, and are at present stoping down the lode, which is large, and producing 3 tons of ore per fm. After a few days we shall be in a position to resume the driving of the 18 fm. level, also to sink a winze under the same, where there is a large lode with stones of ore.

WHEAL COURTENAY COPPER MINING COMPANY.

A general meeting of shareholders in this company was held on Monday, the 3d inst., at the Boar and Castle, Oxford-street.

G. R. Metzler, Esq., in the chair.

The Chairman stated, that the object of the meeting was to open a cost-book, and henceforth carry on the object of the enterprise as a small company, which they had hitherto been doing, more as individuals than as a collective body. He proceeded to remark, that the sett was situated in the parish of St. Columb-Major, and extended over the whole of the Trugo land. It was held under lease from Col. Richard Vyvyan for 21 years, from Nov. 30, 1846, at a royalty or due of 1-12th, in addition to 12 three parts, or shares, held by the said Col. Vyvyan, which were not subject to any call or claim. There was, however, no sleeping or dead rent of any kind. The chairman then proceeded to read some letters with respect to the prospects of the mine, which gave every reason to believe the result to the shareholders would be beneficial, and he urged them to proceed vigorously. He strongly advised the immediate erection of efficient and proper machinery.

The meeting then adopted the various rules and regulations of the cost-book, and determined that the capital of the company should be divided into 268 parts, or shares, of 12*l.* 10s. each.—The meeting was numerously attended, and represented 200 parts, or shares, being equal to about four-fifths of the capital of the company. The whole of the shares were disposed of. Messrs. Rudd, Metzler, Wybrow, Glover, Holl, and Brooks, were appointed a committee of management, and empowered to carry out the wishes of the shareholders with every expedition and energy.

WHEAL CURTIS COPPER MINING COMPANY.

The half-yearly meeting of shareholders was to have been held on Wednesday last, at the Guildhall Coffee-house, the chair being advertised to be taken at 12 o'clock. After waiting until 1 o'clock, Mr. G. F. Smith inquired if there were any directors present, or when the chair would be taken?—The Secretary (Mr. Jacob) replied that, there being only 16 gentlemen present, while it required 20 to make a quorum, no business could be done. There was no director present. Mr. Hallett, the chairman, had been engaged in a heavy lawsuit in Westminster Hall for the last two days; but he promised to be present if possible, or send a letter to the gentleman appointed to take the chair. A letter was here brought into the room, which proved to be from Mr. Hallett: it apologised to the meeting for his non-attendance, in consequence of his engagements in Westminster Hall, and recommended the appointment of a committee to inquire into the affairs of the company, and expressed it as his opinion that it would be desirable to call up the remainder of the 4*l.* (10s.) agreed to be called at once.—Mr. Smith said, that he regretted that they could not proceed with the business that day, as it was necessary that they should understand the real position in which they stood. The most important business they had to do was, to confirm the forfeiture of 1100 shares; but he found that the 3*l.* 10s. called up had only been paid on 1694 shares, while beyond the 1100 he had mentioned there were 1092 in arrear, which they ought to use a little gentle pressure on, the directors to forfeit also, if not immediately paid upon. He was sure Mr. Hallett, who had done great service to the company, was only absent from the extreme pressure of business, and that he would assist them in forfeiting the shares in arrear, when the holders of the 1600 who had paid up could consider what was best to be done to recover their 3*l.* 10s. per share, which he had no doubt of being able to do. (Cheers.) He begged to move, that the meeting should be adjourned till the 13th inst.; and that, in the mean time, the shareholders present would take care to make such arrangements as to ensure a quorum being present on that day.—One or two shareholders suggested the appointment of a committee to inquire into the company's affairs, in accordance with the recommendation contained in Mr. Hallett's letter; but it being explained that no business could be legally transacted, and Mr. Smith having promised to inquire in the course of the ensuing week into the state of the accounts, in order to be prepared with information as to the position of the company when they next met, the meeting adjourned to the day above named.

Alfred Consols.—At a meeting of adventurers, held at the mine, on the 27th June—Mr. H. Noell in the chair—the statement of accounts was presented—showing balance of 1796*l.* 8s. 8d. against the adventurers—which was passed, and the purser directed to collect the amount at the rate of 1*l.* 15s. 10d. per share: all outstanding liabilities to be liquidated; the salaries of all parties employed to be reduced 10 per cent. during the extreme depression of the standard; and the lords to be solicited to give up their dues while the prices of metals continue so low.—Among the proceeds are—March 9: By copper ore, 802*l.* 8s. 8d.; lead ore, 19*l.* 5s. 3d.—less dues, 1-18th, 45*l.* 12s.=776*l.* 0s. 11d.—May 11: By copper ore (less dues), 815*l.* 16s. 4d.

Balleswidden.—At a meeting of adventurers, held at the mine, on Tuesday week, the accounts for March and April were produced by the purser, R. V. Davy, Esq., of which the following is an abstract:—Wages for March and April, 2724*l.* 6s. 10d.; coals, 218*l.* 7s. 8d.; carriage, 74*l.* 3s. 5d.; merchants' accounts, 812*l.* 15s. 4d.; dues, 117*l.* 14s. 5d.=3942*l.* 7s. 8d.—By tin sold, 3884*l.* 16s. 4d.—leaving balance, loss, 57*l.* 11s. 4d.

Craddock Moor.—A meeting of adventurers was held at Liskeard, on the 22d June, when the accounts were presented, showing—By call made last meeting, 135*l.*; balance of last account, 15*l.* 4s. 3d.—together, 150*l.* 4s. 3d.—Labour cost for March and April, 101*l.* 16s. 3d.; materials, 35*l.* 11s. 6d.—leaving balance of 12*l.* 16s. 6d. in favour of adventurers. A call of 12s. per share was made. The following report from Capt. Henry Taylor was read to the meeting:—"Since our last meeting, we put two men, and afterwards four, to clear up a place formerly sunk by the old men in the western part of the sett, and came down upon a lode near a cross-course; this lode will average from 3 to 4 feet wide, and is composed of spar and a very kindly gossan, with good stones of tin and mundic, and some gray ore; we saved a little tinstuff from this lode, which will do to stamp; we have now suspended working on it. At the engine-shaft lode, in the 45 fm. level, we are driving west, but on a cross-course, to cut the north lode (which we expect to accomplish in six weeks from this time), by four men, at 10*l.* per fm. The 45 fm. level east is come in to the elvan cross-course, which was in the shaft when it was commenced, and east of which Capt. Nance speaks of their having had good stones of ore. The elvan course is hard, and is now set for 11*l.* per fm."

East Wheal Rose.—The accounts for March and April show—Balance of last account, 2561*l.* 11s. 9d.; by sales of lead ore, including Oxnam's, East and North Wheal Rose, &c., 13,445*l.* 4s. 1d.—together, 16,006*l.* 15s. 10d.—To mine costs, 4614*l.* 3s. 9d.; income tax, 110*l.*; Stannary Court, 16*l.* 9s. 6d.; dues, 912*l.* 7s. 6d.; by payment of dividend, at 40*l.* per share, 5120*l.*, which, with incidental charges, make 13,433*l.* 7s. 11d.—leaving balance in favour of adventurers, 2573*l.* 7s. 11d.

Goxamena.—A meeting of adventurers was held at Liskeard, on the 22d June, when the accounts were presented, showing—By call made last meeting, 384*l.*; balance of last account, 77*l.* 19s. 7d.—together, 461*l.* 19s. 7d.—Labour cost for March and April, 298*l.* 3s. 11d.; materials, 136*l.* 10s. 2d.—leaving balance of 27*l.* 5s. 6d. in favour of adventurers. A call of 30s. per share was made. The following report from Capt. J. Buzza was read to the meeting:—"The engine-shaft is sunk 5 fms. under the 55 fm. level; the lode in the shaft is disordered by the cross-course; it is composed of spar, mundic, and peach. In the 55 east the lode is 18 inches big, composed of spar, peach, mundic, and spots of ore; in the same level west the lode is 10 inches big, composed of flookan and spar. In the 45 east the lode is 3 feet big, producing about 1½ tons of ore per fathom. In the 34 east the lode is 15 inches big, composed of peach, mundic, and spots of ore."

West Caradon.—The statement of accounts for March and April shows—By copper ores sold (less lord's dues, 261*l.* 5s. 11d), 3984*l.* 4s. 11d., materials, 34*l.* 12s.—together, 4018*l.* 16s. 11d.—To purser, agents, counting-house expenses, &c., 91*l.* 14s. 5d.; engine-men, smiths, and carpentry, 171s. 9s. 2d.; tribute and tutwork, 1425*l.* 12s. 5d.; pitmen, timbermen, tramming, filling, &c., 283*l.* 5s. 10d.; charges on ores, 62*l.* 3s. 10d.; parochial rates, doctor, and club, 46*l.* 11s. 9d.; materials, 75*l.* 4s. 10d.; sundries paid in labour cost, 24*l.* 7s. 2d.—leaving balance, being profit on the two months, 599*l.* 7s. 6d.; add balance of last account, 813*l.* 0s. 6d.=1412*l.* 8s. in favour of adventurers, to end of fourth month.

Wheal Mary Consols.—A meeting of adventurers was held at Liskeard, on the 22d June, when the accounts were presented, showing—Received for copper ore, 390*l.* 18s. 3d.; tin sold, 886*l.* 18s. 6d.; materials, 34*l.* 13s.; by call made at last meeting, 592*l.* 10s. = 1904*l.* 19s. 9d.—Labour cost for March and April, 1181*l.* 4s. 6d.; materials, 345*l.* 14s. 3d.; lord's dues, 72*l.* 9s. 2d.; balance of last account, 238*l.* 18s. 11d.—leaving balance of 66*l.* 2s. 11d. in favour of the adventurers. A call of 2*l.* per share was made—23 shares having been resigned. It was resolved—"That a bunch of copper ore being discovered in Wheal Mary sett, by working from Wheal Sisters, and which cannot be continued working unless the water be drained by Wheal Sisters engine, it is agreed, that a proposed arrangement with Wheal Sisters adventurers be acceded to, by which they may continue to work their tin lode through Wheal Mary, and Wheal Mary adventurers our copper lode through Wheal Sisters; the expenses of Wheal Sisters steam-engine to be paid by both mines—in the proportion of the amounts in value of tin and copper sold from each mine from ground drained by Wheal Sisters engine."—"That it appearing to the meeting that Wheal Mary engine can be kept at work for prosecuting the copper lode in the 50 fm. level, with but little (if any) loss to the adventurers, for the next two months, it is concluded to continue it."—"That the attention of the purser be particularly requested to the large amount of arrears, and to the taking the needful steps to reduce the same without delay."—The following report, from Capt. James Nance, was read to the meeting:—"All our operations on the old lode and the cross-cuts north are suspended, and the water has been let in to the 60 fm. level. On the south copper lode, in the 25 fm. level, there is a tribute pitch working at 13s. 4d. in 1*l.* In the 50 fm. level east we have driven through 40 fms. of orey ground—14 fms. of which yielded upwards of 2½ tons per fm. The eastern stopes, in the back of this level, continue to yield about 2½ tons of ore per fm., and the western stopes 1½ ton per fm.; this promising lode is still entire in the bottom. In consequence of the badness of the ventilation here, and its great distance from the engine-shaft, we cannot work it so cheaply or expeditiously as we could wish. The extraordinary depression of the standard, also makes very seriously against us; this, however, it is to be hoped, is only temporary; and as soon as we shall have holed a winze, which is completed to within 3 fms., between the 25 and 50 fm. levels, the ventilation will be greatly improved, and be a further advantage to us in working the backs. The lode in the 60 fm. level west, driving from Wheal Sisters boundary, is 2 ft. wide, with a good branch of ore, 1 ft. wide. On the tin lode we are driving the 35 fm. level east, and the 45 fm. level east and west. In the 35 the lode is large and coarse; but, from its appearance, we expect an improvement shortly. In the 45 fm. level east it is poor: on this lode we have 12 men, at various points, on tribute. We have lately commenced sinking below some old workings, on a south tin lode, near the south part of the sett, and we find the lode of a very promising character, yielding excellent stones of tin. There are also two other lodes between these two, which have been wrought on for a great length. From their position, and being parallel with the productive north tin lode, and from their similarity of character, we anticipate they will, if explored, prove a very valuable acquisition to the mine."

Wheal Sisters.—A meeting of adventurers was held at Liskeard, on the 23d June, when the accounts were presented, showing—Received for copper ore, 255*l.* 16s. 5d.; tin sold, 28*l.* 19s.; by call made at last meeting, 291*l.*; balance of last account, 93*l.* 7s. 4d. = 669*l.* 2s. 9d.—Labour cost for March and April, 543*l.* 3s. 11d.; materials, 101*l.* 10s. 5d.; lord's dues, 16*l.* 15s. 1d.—leaving balance of 7*l.* 13s. 4d. in favour of the adventurers. A call of 30s. per share was made—10 shares having been resigned. It was resolved,—"That a proposed arrangement with Wheal Mary Consols adventurers, by which they may continue to work their copper lode through Wheal Sisters, and Wheal Sisters adventurers our tin lode through Wheal Mary—the expenses of Wheal Sisters steam-engine to be paid by both mines, in the proportion of the amount in value of tin and copper sold from each mine from ground drained by Wheal Sisters engine—be acceded to."—"That whereas the tin expected to be raised from the tin lode is likely to pay the expenses of working that lode, and also the proportion of water charge falling on Wheal Sisters adventurers (according to the last resolution), it is agreed to restrict the workings to the tin lode for the present, except that the driving of the cross-cut, in the 40, towards the same lode, be continued; and also, except that the pitches giving a profit to the adventurers be continued."—The following report, from Capt. James Nance, was read to the meeting:—"We have four men employed in driving the 40 fm. level east, on the main lode, where, two days since, we intersected a flookan cross-course, which has heaved the lode; we are now driving south to intersect it. A few fathoms behind this end we passed through a bunch of ore, 2 fms. long; we are driving the cross-cut, in this level, towards the tin lode, by four men. We are also driving the adit level east, on the north copper lode; it is about 2½ ft. wide, composed of peach, capel, mundic, and spots of ore. There are six men employed in driving the 25 fm. level east, and stoping the backs on the tin lode, and two men driving the 14 fm. level on the same; this lode in the 25 is about 2 ft. wide, and worth above 9*l.* per fm. In the 14 fm. level it is 1 ft. wide, coarse in quality; this level, however, is not advanced so far east as the lower one. Our estimated returns per month, for both tin and copper, are 185*l.* 10s.; and our costs, if we discontinue all operations on the copper lodes, except the pitches, 182*l.* 14s.—balance, 2*l.* 16s. As soon as we shall have laid open more ground on the tin lode, we hope to increase our returns."

WHEAL MARY CONSOLS AND WHEAL SISTERS MINES.

The following letter has been addressed to the shareholders in these mines by Mr. E. A. Crouch, dated Liskeard, July 1:—"It appears desirable, on the present occasion, to transmit to you, with the captain's reports, some further particulars of the prospects of the mines, and of the views of the adventurers at their late meetings. The audit of accounts at said meeting was to end of fourth month (April) for each mine; and the calls made were to meet the costs of working, less the receipts, for the two months ending 6th mouth 30th. The amount of the calls is heavier per share than it would otherwise be, in consequence of the number of the shares being less than formerly; but if the mines can, in future, be worked without loss, it is not probable we shall have more relinquishments. My object for some time has been to keep the expenditure within the income at both mines; and with this view I proposed at Wheal Mary meeting to suspend working the engine at that mine for the present, and to concentrate our efforts on the tin lode, and on the valuable copper lode in the 60 fm. level, which since last meeting Wheal Mary adventurers have obtained leave to work in the only way practicable—viz.: through Wheal Sisters Mine; the produce of this copper lode and of the tin lode bids fair to more than defray the expenses of working these lodes, even after paying Wheal Sisters adventurers such part of the expense of keeping their steam-engine at work as seemed fair, as well as necessary to enable Wheal Sisters to pay its own costs, and continue working. The stoppage of Wheal Sisters engine would be attended with the rise of the water over the tin and copper lodes before mentioned. After considerable discussion, Wheal Mary adventurers preferred that the Wheal Mary engine should continue working, Capt. Nance being of opinion that the produce of the copper lode in the 50 fm. level would pay all the engine expenses. The state of Wheal Mary, then, is that although the call made was necessary to meet past liabilities, yet the prospects of the mine are much improved—first, by the copper lode in the 60 proving so good; and secondly, by the discovery of another tin lode, affording as favourable indications as did our present tin lode at the same depth. Respecting Wheal Sisters, the call is, as before stated, to cover liabilities for fifth and sixth months, whilst from the end of sixth month the produce of tin is likely to pay all costs. This tin can now only be worked in one place, and by six men; but we shall be able each succeeding month to employ more men; and, if the lode continues good, to increase our returns, and thus get into a more favourable position than at present. The north copper lode has been cut in the adit since last meeting, and driven on a short distance from the cross-course, where it is 2½ ft. wide; this and the old lode in the 40 east should be continued when convenient.

"Some of the adventurers in Wheal Mary and Wheal Sisters may feel interested in a few particulars of other mines. West Caradon is looking well; and if the price of copper was higher we should send more ore to market. The accounts showed a balance of 1412*l.* in hand, out of which a dividend of 50s. per share was declared. Gonamena continues to produce a little ore. At Craddock Moor the newly discovered lode is suspended working for the present, it being desirable to keep down the expenses. The western levels of some of the West Caradon lodes driving towards Craddock Moor are very productive; and it will, probably, ere long be proposed to sink a shaft near the boundary, on joint account of Craddock Moor and West Caradon. I avail myself of this opportunity to inform some adventurers, resident at a distance, that when they wish to resign shares it is necessary, before sending me (as purser) a notice of relinquishment, that they pay up all calls that may have been made on such shares. The relinquishment will then be entered; and any further call, not exceeding the share of the mine expenses to the end of the month during which the relinquishment takes place, is payable, if demanded, as soon as the accounts are made up, while the amount returnable to the parties resigning, as their share of materials, &c., cannot be claimed until one or two years after the relinquishment. In cases of positive inability to pay the calls, the adventurers are sometimes under the necessity of accepting relinquishments without payment, or with payment of part only, of the amount due. Persons thus unable to meet their engagements should endeavour to come to an early settlement by sale of their shares, or, if needful, by resignation. Adventurers who are of ability, and do not punctually pay mine calls (which, it should be remembered, are amounts of labour and goods supplied to their use), throw an unfair burden on their fellow-adventurers; and I am directed to inform all parties who have been for some time in arrear, that they will be likely to receive applications from creditors of the mines without further notice, unless they pay up in the course of the present month."

East Tamar Consols.—At the usual monthly survey, held on Friday last, the following bargains and pitches were set:—To drive north in the 60 fm. level 4 fms., stent, by 6 men, taken at 80s. per fm.; the distance driven last month is 5 fms. 2 in.; the lode in the present end was larger than usual, and somewhat disordered, producing some good stones of lead; but, on the whole, it has not been, and is not, so productive as before; to drive south in the 60 fm. level 6 fms., stent, by 4 men, taken at 2*l.* 5s. per fm.—driven last month 6 fms. 4 ft. 6 in.; there is a good lode in this end, and it has throughout the month produced a fair quantity of ore. To drive north in the 46 fm. level 4 fms., stent, by 4 men, taken at 80s. per fm.—driven last month 4 fms.; there is a very good lode in this end, and it will yield more than the usual average quantity of ore—I hope it will continue in its present state; to drive south in the 46 fm. level 2 fms., stent, by 4 men, taken at 5*l.* per fm.—driven last month 2 fms. 5 ft.; the lode in this end has produced but very little ore during the last week; the ground is hard, and expect it will continue to be so for a few fms., as there is the same in the 38 fm. level, just over it. To stope in the back of the 60 fm. level, north of the shaft, 4 fms. south of the rise, by 4 men, taken at 15s. per fm.; this ground will yield a considerable quantity of ore. To stope in the back of the 46 fm. level, north of the shaft, according as directed, by 4 men; this ground will, I expect, prove very productive as the level, under it, was driven through a good course of ore. A pitch in the back of the 54 fm. level, north of the shaft, to 4 men, at 9s. in 1*l.*; a pitch in the back of the 54 fm. level, south of the shaft, and to extend 12 fms. from it, to 4 men, at 10s. in 1*l.*; a pitch in the back of the 54 fm. level, to extend 12 fms. south of the last-named pitch, to 4 men, at 9s. in 1*l.* A pitch in the back of the 46 fm. level, north of the shaft, to 4 men, at 11s. in 1*l.* Three other pitches were offered, but not taken; I hope to set them in a few days hence, as they were put up at fair prices, at which men could get tolerably good wages. The shaftmen are working well, and keeping their time good. There is a large and promising lode in the bottom of the shaft, producing very good work. I have examined the lode in the shallow level, driven from Smith's shaft; I think it will work to a profit. The ore is richer for silver than that raised from the deeper levels; I purpose placing a pare of men to stope a few fathoms and to prove it. We are to weigh the 30 tons of ore, sold to the Tamar Company, to-morrow; and should have this evening received notice that there will be a vessel at the quay to take in the 20 tons, sold to Messrs. Sims, Wylliams, and Co., on Saturday.

GREAT WHEAL ROUGH TOR.

Sir,—With your correspondent of last week, I am decidedly averse to "puffing." It can do no possible good, and, in the case of this mine, it is certainly not required; but I also consider that the silent system which has lately prevailed as regards this mine is equally injurious, and might also, to some persons connected therewith, become unjust. It is quite certain that very important information relative to the extraordinary indications of this mine, had long been in London, and yet not the slightest notice appeared in your Journal. In consequence of such want of information, the public were not only quite unacquainted with the very important matters; but, presuming, from such silence, that nothing worthy of notice had occurred, they justly inferred the mine had not kept up her first pretensions. In consequence of this, the mine quotations went down from a very high premium to a very ruinous discount; and some "pressed down" adventurers were obliged to make, or were offering to make, most dreadful sacrifices. Their money had produced most important *evidences* of mineral wealth, but of these they did not obtain, or were likely to lose, the advantage.

Objections are taken to the introduction of the letters of "An Old Miner." Now, it is quite certain, that to these letters we are indebted for the knowledge of the very important and now admitted fact, of the cutting of most important branches of ore in the shaft, being offshoots from the lode of more than 1 ft. in thickness. This had occurred some considerable time, but was never previously communicated in your Journal. To the second writer we are indebted for the fact of the discovery of malleable copper. Here an objection is again taken, that the size is exaggerated, and the insertion of the letter is declared to be an attempt at puffing. I am not disposed to admit an error in this respect, as it is quite possible that even Mr. Hitchens might not have obtained possession of every specimen. It is, however, certain, that he considered those which had seen of sufficient importance to be sent to his correspondent in London; yet such again was never noticed in your paper, and thus other adventurers and the public were in ignorance of the fact. Mr. Hitchens considers the "Old Miner" must have obtained his information from the workmen. Quite possible—and I must beg to observe, the information of the workmen in a mine is not to be despised, as they are generally in advance both of adventurers and agent. I am quite ready to admit, that I believe Mr. Hitchens to be a perfectly straightforward and matter-of-fact person, well understanding his business, and one who would not misstate any matter which it was his duty to explain. It is not my wish to make any charge; but this I know, that I, as an adventurer, if I consider publicity has not been given to matters upon which the marketable value of the property must entirely depend, have a right to obtain information by any means in my power; and it is a privilege I enjoy, as well as others, to make such facts known in the *Mining Journal* with the avowed intention of putting this mine in her *true position* before the public.

It is quite certain, that there is a difficulty in obtaining such information unless officially given, because all these matters are occurring 300 ft. below the surface, and are only seen by the workmen, or by privileged persons; and I, therefore, think it very unfair to make a charge of "puffing," because an adventurer, who is neither a buyer nor a seller, gives publicity to matters not previously circulated, even if it should appear that his informant had either seen more than the agent, or had magnified the objects he had seen or possessed. I cannot decidedly say, that my informant did not look at the specimens through a magnifying-glass, but I know his eyesight to be usually good, his information usually correct, and, I assure you, both the letters are given to you verbatim, and that they are from persons who do not hold a single share in the mine, and are neither buyers nor sellers, nor employed in either capacity. Their information first conveyed to me the facts—their publication brought the acknowledgment of their truth, saving the objection to the size of the malleable copper—and I shall be quite content to take Mr. Hitchens's version in that respect. The presence of malleable copper, found in connection with the branches, at such a distance from the lode, are indications quite as favourable as I could possibly hope to have seen, or to have heard of, and will be understood by persons conversant with mining matters.

An Adventurer.

July 7.

MEXICAN BONDS.

Sir,—The bondholders in general have a good allowance of patience; but many amongst them think it rather too bad, that the amount remitted to Messrs. Schneider and Co. by the Mexican Government, amounting to nearly 90,000*l.*, should still be retained by that firm, without, as they consider, the shadow of an excuse. The Mexican Minister being applied to by the committee of bondholders, through the chairman (Mr. G. R. Robinson, M.P.), requesting that the money in Messrs. Schneider's hands should be divided, *pro ratâ*, amongst them, or invested in public securities, replied, that his Government, and, consequently, himself, had nothing to do with the money, as it belonged to the bondholders. On this, Mr. Robinson applied to Messrs. Schneider and Co., who declined either distributing the amount, or investing it in public securities in theirs and the names of some of the committee, on the plea, that the Mexcian Government had made an engagement with them, which had not been carried out. Messrs. Schneider can have no claim on an amount remitted by the Mexican Government for a *specific* purpose, unless it be for commission on the sum itself; and no possible rate of commission can be due to them, which is not much more than covered by the interest of the money they have so long had the use of—at all events, the bondholders have a right to ask, what is the nature and amount of the claim alluded to? If it absorbs the whole amount, let the fact be stated at once—better this than keeping the

matter in suspense, apparently for ever, which is creditable only to one of the parties—the bondholders proving their subsidiveness and patience. It is understood that the house of Messrs. Schneider and Co. is composed merely of one partner (a young man); and surely so large a sum should not entirely under his control.—A BONDHOLDER: *City, July* 3.

BOLANOS MINING COMPANY.

SIR,—I beg to hand you an extract of a letter, which I have received from a friend residing in Zacatecas, and which may probably be interesting to some of your readers; it is dated April 29, 1848. Knowing how deeply interested you are in the Bolanos Mining Company, it is with pleasure I send the following details of the workings of their mine El Bote, and which may be considered an anticipation of their report, which will, I understand, be issued in London some time in July. I shall speak in round numbers—first, then, the company invested capital to the amount of $34,000, and made themselves liable for stores, &c., previously on the mine (but to be paid for only, provided the mine made sufficient profits), to the amount of $38,000; their other liabilities, at this date, say $32,000; the total assets, $160,000, exclusive of ore on hand, worth $36,000—so that you will perceive, after paying off the $33,000 liabilities, and $88,000 contingent ditto, there is a balance in favour of the company of $130,000, equal to more than 20,000*l.*; or, exclusive of the value of ores on hand, it shows more than $90,000 profit—so that, had they not been obliged to form capital out of the profits, the above sum (20,000*l.*) would have been at the service of the proprietors; and if you take into consideration the enormous outlay necessary in opening virgin ground, such as this, you cannot but be satisfied with the results. The money expended in unproductive works—such as sinking shafts, driving the lodes, and erecting and purchasing plant, cannot be far less than $120,000 up to this date—so that, now that they have reached the ore ground, this outlay will not have to be included in the future costs, as it has been hitherto; and, were the same quantity of ores raised, the profit would amount to $210,000, instead of $90,000.

But the finest feature of this mine I have yet to relate; they have not to search for ores; there is an immense quantity in sight. The ley of the ores has increased, during the five months, almost 50 per cent.—certainly not less than 40 per cent.—over any previous five months; and the company have not felt the effects to any extent of this increase of quality—because as they approach the main lode, so the water has increased, and will continue to do so, until the vein is cut, which has prevented the extraction keeping up with previous rates; but this is only a temporary drawback, as they can now master the water with the greatest ease with four malacates at work. The report will no doubt inform you, that they have an engine ready to erect, as soon as its services will be required, which will not be for some four, or, perhaps, five months, when it is intended to draw the water at one shaft, and the ore at another.

Mornington Crescent, July 6. PHILIP JONES.

REAL DEL MONTE AND BOLANOS MINING COMPANIES.

SIR,—As a shareholder in the Real del Monte and Bolanos Mining Companies I must beg permission to call your attention to an error in your last Number. You state truly enough, and to my cost, that the Real del Monte concern is about "used up," but you are wrong in adding that that concern had paid 72,000*l.* in dividends; you ought to have placed that fact to the credit of the Bolanos Company—see last year's report.

Your reporter has omitted to state what to me appears a most important fact to the shareholders; which is, that the Bolanos Company placed no more than $33,000 in the El Bote Mine; and now, after working 20 months, and deducting outstanding liabilities, there is a surplus of assets of $126,000, besides about $30,000 worth of ores on hand; so that, had the company placed sufficient capital in the first instance at the disposal of the mine agent, instead of forming capital out of the profits, the above balance of more than $100,000, or 20,000*l.*, would have been at the disposal of the proprietors.

There was one thing at the meeting which does not appear at all clear to me; but I am not sure whether it formed part of the report, or whether it was elicited in answer to a question. However, that is immaterial. It was stated—"that the reason why the extraction had fallen off of late, was owing to the increase of water, which occupied nearly all the whim power, and, therefore, prevented their drawing ores." If so, why defer erecting the engine until another cross-cut was made? The engine, if erected now, would not be less useful when the contemplated cross-cut was effected. This was stated when I was absent from the room for a minute, or I should have endeavoured to obtain a more satisfactory reason for not erecting the engine at once.

The shares of this company are deplorably low; but shareholders must console themselves with an old Irish saying—"It is never so dark as just before day." And I do think (hope being, perhaps, father to the thought) that our day is at last dawning. Taking the report all in all, it justifies our being somewhat sanguine; provided the directors will, by sad experience, know better than to make half a million sterling in one mine, and sink half as much more in another; as was the case some years ago with the Veta Grande and El Barraneo.—J. P.: *London, July* 5.

THE ANGLO-MEXICAN MINING COMPANY.

SIR,—I attended yesterday, on behalf of a large holder of Anglo-Mexican mining shares, the annual meeting of that company. After the expenditure of *more than a million sterling* upon the working and drainage of mines that have proved either worthless, or been abandoned as such* by the company, and after persevering year after year with a failing exchequer in injudicious mining operations, until the finances have been reduced within 1½ per cent. of zero, the acting directors now open their eyes, and propose that the concern should be wound-up with all practicable despatch. It is unfair, especially in so uncertain a pursuit as mining, always to judge from results; but any man who has not his "head in a bag," and who will take the trouble to peruse the annual reports that have from year to year issued from head quarters, and who will note how the trumpet of prosperity was sounded in the *paulo post futurum* tense, in a majority of the reports in question, must, at all events, come to this conclusion, that the acting directors were either grossly duped, or that they indulged in fallacious hopes and flourishes, not warranted by the facts before them. The practical object, however, of my present letter, is to advise the shareholders in this company, if they wish to receive a 2*l.* per cent. dividend, rather to entrust the winding-up of its affairs to a committee of *men of business*, selected from their own body, than to the present acting direction. This is the third foreign mining company which has announced, during the present year, an intention of winding-up its affairs. The other two are the Columbian and the New Granada Mining Companies. C. RICHARDSON.

Charles-street, St. James's, July 6.

MEXICAN AND SOUTH AMERICAN COMPANY.

SIR,—Some shares in this company are advertised for sale, under forfeiture for non-payment of a call of 1*l.* per share. I am sorry to say, that the Nos. of my certificates do not figure in the list—unfortunately, when that call was made, I paid it, relying upon the accuracy of statements made by the only parties who could know anything of the company's affairs (for no accounts have ever been published), that the realisable assets of the concern would produce 5*l.* per share. On my return to London, a few days since, I learnt, with feelings of more than surprise, that, at the general meeting, held a short time since, it was announced that the company had lost the whole of its capital, and would be obliged to make another call of 1*l.* per share. How this large sum has been dissipated in six months is not explained; but if it be true, as I have heard, that the directors have spent a large sum of money in sending out parties to work some new copper smelting company in South America, it is the duty of the shareholders to protest against such an application of their money without their consent—my own belief is, that the directors are individually responsible, for I cannot make out that the regulations on the scrip authorise such a speculation. Such tremendous ruin in a few months naturally renders shareholders in concerns under the same management (the accounts of which are never published) fearful for the safety of their investments.

The Anglo-Mexican Mint Association lately paid a dividend and a bonus. Their accounts are kept secret, because they are in too prosperous a state to publish them to the world. Those of the Mexican and South American Company are kept back, I presume, for the antipodal reason that they are too bad to show. One of the apparently irresponsible managers of these two associations was the principal promoter of two mining schemes defunct this year, leaving a wreck behind—the Columbian and New Granada Companies. Their dissolution was, I have no doubt, the best that could be done, at any rate, for the interest of the shareholders. Their accounts were circulated amongst the proprietors, or they might still have existed, to fall with greater ruin hereafter.

Not being acquainted with any shareholders in the Mexican and South American Company, I address myself to you, not doubting that many amongst the proprietors will agree with me, that steps should be taken to obtain particulars, at least, if we cannot get redress.—R. D.: *City, July* 4.

MEXICAN AND SOUTH AMERICAN COMPANY.

SIR,—The shareholders in this company are strongly recommended to convene a meeting, to institute a rigid inquiry as to the conduct of the directors with regard to the funds of this company, and to take such legal steps as may be deemed requisite. The whole amount of the capital has disappeared, and the directors refuse to give any account. I have taken legal opinion on the subject, and am informed, that the full amount of deposit can be recovered from the directors—that is, if any have the power of paying—in consequence of their having acted contrary to the terms of the prospectus. A VICTIM.

Charing-cross, July 6.

*The only mine possessed by this company that proved anything like permanently productive—"the Mellado"—was abandoned to the original proprietors just before it came into bondage.

CALLINGTON MINES.

SIR,—On reading in your last Number the report of what passed at the meeting of the Callington Company, I was much struck with the bold assertions made in the directors' report; and observing that certain shareholders are apparently perfectly satisfied with the replies given to their pointed questions, it has occurred to me, that you may not consider a small space in your columns ill bestowed in an endeavour to enlighten the proprietors, who have been long desirous of information. The directors say, "they have been compelled to realise both copper and lead ores, at prices hitherto unknown." Now, so far is this from the fact, as is the price for lead of 12*l.* per ton (the price a few years ago) from 16*l.* (the present price), and the difference, though not so great in copper, is yet the same way. They go on to say, "the profits have thus been affected, to an extent which could not have been anticipated." Had they concluded this paragraph with the words "by ourselves," one might have passed it over; but I may tell the shareholders at large, that a great reduction in the price of their lead ore has long been looked for by those who understand its value; and no better proof need they of this than the fact, that the Tamar Smelting Company, formed for the express purpose of benefitting the Tamar Mine, as well as the Callington (the managing directors in all being the same), has been, from its formation, the purchaser of probably four-fifths of the Callington ore, at prices ranging from 19*l.* to 21*l.* per ton; but now that lead has dropped 2*l.* per ton, the Tamar Company's offers range from 15*l.* to 17*l.* per ton—say, 4*l.* per ton less—the equivalent drop being about 1*l.* per ton.

The natural inference appears to me to be this—that the Callington Company has sold its ore for 3*l.* per ton more than its value; the presence of which has produced the dividends paid, and the absence of which will not permit further dividends from the same quantity of ore. The last paragraph is not worded with the usual care of the directors; for they say, "had a fair and remunerative price been given for the ores, a much larger credit balance would appear in favour of the company." I can understand what was meant by the directors (or rather some of them), in using the word "fair;" but "remunerative" being a word so very different in its import, it appears to me that (again) some of the directors must have been seriously thinking, that if the price received be fair, then it does not remunerate, and the mine, instead of giving us profits, almost threatens with a loss. Of the fairness of the price the shareholders may judge from the foregoing, with the additional fact, that the other smelting-houses' offers are almost always about 2*l.* per ton under the Tamar Company's; and I cannot imagine that the former would allow the Tamar Company to have a decided bargain every month. The statement of accounts requires little comment—the item of 1200*l.* expended appearing on the credit side is a curious fact.

The chairman's comments were very "fair"—for the price for the ore is not only diminished, but very much so—making it very "unsatisfactory," doubtless, since the absence of dividends is likely to be one of continuance, if only the former price can restore them; and thus it is that Mr. R. James should comprehend that the absence of dividends is owing to the fact of the Tamar Company, which has bought nearly all the ore sold, having lately dropped their price 4*l.* per ton for the ore—whilst the actual market drop is about 1*l.*; and, consequently, one of two things must occur previous to a resumption of dividends—either that this company must again pay their former rates, or that the mine must return a larger quantity in the same time, and for the same costs. With respect to the copper ores—had the standard paid for the quantity sold by the Callington Company been what would have been considered a fair one in the three months, the amount of money would have probably been 200*l.* more; but this extra sum would not have equalled the actual loss in the three months, excluding the engine cost—say, costs without engine charge, 6809*l.* 18s. 1d.; returns, 6403*l.* 1s. 3d.—balance of loss, 406*l.* 16s. 10d. Mr. Johnson, like the Chancellor of the Exchequer, appears to look for more from a reduced expenditure than an increased income, in which I think he is right—for extended workings will entail increased costs, whilst the returns may not be increased.—O. P. Q.

DIVIDENDS OF PROFITS PAID BY BRITISH MINES,

IN THE SIX MONTHS ENDING JUNE 30, 1848.

Mines.	Amount.	Div. p. sh.	Paid-up.	Present value.
Devon Great Consols	£15360	£15	£ 1	£200
East Wheal Rose	14720	115	50	900
Carn Brea	8000	8	15	100
Par Consols	6400	25	—	1000
Wheal Seton	5445	55	150	800
South Caradon	3840	30	10	400
South Francis	3008	26	67	180
North Pool	3000	30	45	350
Treviskey and Barrier	2440	20	61	116
Wheal Margaret	1792	16	79	250
Wheal Friendship	1280	10	—	—
United Mines	1000	10	300	300
Treleigh Consols	1000	5s	6	3
North Roskear	700	£10	—	200
Trehane	640	2½	2	25
Trethellan	600	5	5	15
Wheal Spearn	256	2	10	75
West Providence	153	12s	1	15
Amount of dividends paid	£69,634.			
WELSH MINES.				
Lisburne	£ 1500	£15	—	—
Goginan	1500	15	—	—
Rhoswiddol	406	—	—	—
Amount of dividends paid	£3406.			
Total amount of dividends paid in six months	£73,040			

MINING COMPANY OF IRELAND.—At the half-yearly meeting of proprietors, held on Thursday last, at the offices, Ormond Quay, Dublin,—E. GIBBON, Esq., in the chair,—Mr. RICHARD PURDY read the report, in which the directors declared that, in consequence of the depressed state of trade, and the losses incurred in various departments of the company, combined with some difficulties which a recent statute had removed, with regard to the rent of mines on settled estates in Ireland, the board could not recommend a dividend on the present occasion.—[We shall give the usual details in our next.]

IMPORTATION OF IRON FROM CHINA.—The vessel *Ann* arrived in the docks from Shanghae has brought, as a portion of her cargo, 100 tons weight of Porto Novo iron (so called in the official return), consigned to order. This large importation of iron from China is very remarkable, and of much interest.

IRON-WORKS IN SHROPSHIRE.—In our last Journal, we published the substance of a letter we had received from a correspondent, which represented the works of the Messrs. Botfield as having been stopped for the last six weeks. This statement, we are happy to find, is incorrect: we are informed that, though the iron-works of Shropshire, in common with other places, feel the depression of the times, yet "the *stoppage* of the Strichley Mills and forges, together with the coal and ironstone pits belonging to Messrs W. and B. Botfield, has been limited to a few days, and that while the canals were out." We need hardly add, that we are well pleased in being authoritatively called upon to publish this correction of our correspondent's report thus far; and trust the time is not distant when we shall have to announce, that all the works in the district have as many orders as they can possibly execute.

ACCIDENT AT THE VICTORIA IRON-WORKS.—In reference to the unfortunate accident at these works, by which 11 lives were lost—the particulars of which appeared in last week's *Mining Journal*—some excellent observations have appeared in the *Macclesfield Courier*. Having already fully described Mr. Fourdrinier's invention, and frequently impressed on our readers the fact, that, by its use, many of the awful accidents which are so often occurring in the mining districts would be prevented, we cannot do better than here quote the words of our contemporary; and trust they will have the proper effect on, at least, the owners of the works where this last calamity took place, by inducing them to communicate with the inventors of the Patent Safety Apparatus:—"A very simple, though most ingenious and effective contrivance, for the prevention of such melancholy accidents, has lately been invented and patented by Mr. Fourdrinier. Had that apparatus been adopted at these works, the lives of 11 of our fellow-creatures, with all the concomitant misery and wretchedness thus occasioned, might, in all probability, have been saved. Can the proprietors, or managers, of similar establishments, hold themselves innocent of the sacrifice of life, when the means of avoiding it are placed at their disposal? Is it not their sacred and bounden duty to avail themselves of every possible means that can be devised to lessen the risk incurred? These questions will, we trust, force themselves upon the consideration of every coroner's jury that may be called to investigate the circumstances attending the loss of life from like occurrences."

The Explosion at Hart's Hill.—In addition to the subscriptions announced in the advertisement, we are glad to have received, by this morning's post, a further list, among which are—The New British Iron Company, per G. Thompson, Esq., 10*l.*; Henry Corser, Esq., Stourbridge, 10*l.* 1s.; the clerks, foremen, and workmen, at the iron-foundry of Messrs. Cochrane and Co., Woodside, near Dudley, 13*l.* 9s. 6d.; the masonic lodge, Dudley, 5*l.*; and the Rev. J. Hollens, 1*l.* 1s.

Consols Mine, Gwennap.—J. Richards was killed by falling into a sink in the 200 fm. level.

Cook's Kitchen Mine.—As J. Reed was blasting a hole, he was so severely injured, that but little hopes are entertained of his recovery.

Fatal Coal-pit Accident at Wednesbury.—It is our painful duty to lay before our readers the particulars of another colliery explosion, which has taken place again at Wednesbury. About six o'clock yesterday evening, a number of men and boys went down a new mine pit in the Brunswick Colliery, belonging to Messrs. Walker and Company, for the purpose of working all night, after the men who had been at work during the day came up. The latter left the pit free from sulphur—one of them having been in the place a short time before. About a quarter before seven o'clock, a body of sulphur had gathered about 100 yards further in the workings of the pit than had ever been known before, and was ignited by the candle of a young man named J. Vernon, who was so dreadfully burned that he died this morning. W. Ralph was also very seriously burned, and W. Page, a boy, slightly. J. Hughes, a boy, was blown against the walls of the pit with such violence that his thigh was fractured so much that the surgeon will be obliged to amputate the leg, if he even survive. The gathering of the sulphur in the pit is attributed to the close state of the atmosphere previous to the accident. To-day there are several pits in the neighbourhood which are not able to be worked from the accumulation of the sulphur and damp together. It is but right to state, that the "butties" of the pit where the explosion has taken place are most attentive to the preservation of the lives of the men employed under them.

Current Prices of Stocks, Shares, & Metals.

STOCK EXCHANGE, Saturday morning Eleven o'clock.

Bank Stock, 9 per Cent., 193 2
3 per Cent. Reduced Ann., 87 6¾
3 per Cent. Consols Ann., 87 6¾
3¼ per Cent. Ann., 87¼ ⅜
Long Annuities, 8¼
India Stock, 10¼ per Cent., —
3 per Cent. Consols for Opg., 87¼ 6¾ 7¼
Exchequer Bills, 1000*l.* 2d. 31 34 pm.
Belgian, 4½ per Cent., 62½ 5
Dutch, 2½ per Cent., 44¾ 5½
Brazilian, 5 per Cent., 68
Chilian, 6 per Cent., 81
Mexican 3 per Cent., 17 ½
Russian, 5 per Cent., 97½ 6½
Spanish, 5 per Cent, 18
Ditto 3 per Cent., 21½

MINES.—There has been an improvement in the mining share market this week, although it has not been to any considerable extent. We learn that West Caradon continues to improve; and that in South Wheal Basset some important discoveries have been made.

Business in the following mines has been transacted during the week:—Great Devon Consols, South Wheal Basset, Trelawny, Pennant, Tamar, Mary Ann, West Wheal Treasury, Bedford United, South Trelawny, Tregorden, Herodsfoot, Wheal Tremayne, Gwinear Consols, South Wheal Betsey, Tincroft, Wheal Agar, Carwinning Hill, &c.

East Wheal Rose bi-monthly account was held on the 29th June, when a dividend of 40*l.* per 128th share was declared, leaving a balance of 2573*l.* in hand. During the two months, seven parcels of lead ore were sold, realising upwards of 14,000*l.*

The Treleigh Mining Company held their quarterly meeting on Monday last, when the statement of accounts presented showed a balance of 1200*l* in favour of the adventurers.

The Anglo-Mexican Mining Association held their annual meeting on Wednesday, but we are unable to furnish any information, as the company are averse to publicity being given of their proceedings.

The proceedings at several other meetings will be found among our Mining Intelligence.

Our letters from the mining districts advise many improvements in the different mines, and we regret that these discoveries cannot be followed up with any immediate returns, arising from the continued depressed state of the standard. These, and most of the leading mines, are returning very little more ores than will prove sufficient to meet the costs, and that expenditure being curtailed to the lowest amount. The operations thus retarded have had the effect of throwing a large number of our labouring population out of employment, and the men are, consequently, emigrating to Australia, where they will find a larger field for their exertions, with labour in demand. Whilst we look with regret on the cause of this lamentable state of things, we have some hope that a change must shortly take place. We have been advised, that an advance of about 4*l.* per ton on tin was made last week, but we have not as yet learned that the smelters have made a general advance. There is also an apparent demand for lead, and we have heard of several sales effected, which were unexpected; and we also learn, that a leading copper firm has received orders from the French Government for upwards of 250,000*l.* worth of copper, which they have declined to execute, in the present unsettled position of the country, upon any other terms than cash. And we have also the gratification to announce, that a new smelting company is in course of formation, with a capital fully capable of meeting the exigencies against which the present body of smelters raise their cry. Perhaps, it would be premature to notice more, until the complete formation of the company, to which we shall again refer. Taking these movements in the aggregate, we consider them as favourable symptoms of an early change.

Since writing the foregoing, we understand that a large sale of copper has been effected with the Russian Government.

We learn that arrangements have been made for the resident director of Camborne Consols to proceed to the mine, and commence with vigour this promising piece of ground, which we trust will prove equal to the best wishes of her friends.

We are informed that a private company has taken up Wheal Vincent with a determination to give her a fair and effectual trial, and that the operations commenced are likely to be well remunerated.

In foreign mines there have been several transactions; but we do not find them to maintain their former quotations generally. United Mexicans, Kinzigthals, Bolanos, Altens, St. John del Reys, and Australians, have been done at present prices, and at which there are still buyers.

Letters have been received from the Alten Mines, which are highly satisfactory. A very promising lode had been discovered near their smelting-house; but no trial up to the date of the dispatches had been made. The returns up to the end of May are about 50 tons. Quænangen Mines are reported very highly of, and the ores, which have been dressed, have proved very rich.

Letters have been received from the Deep River Mine, North Carolina, which are of the highest importance, and gratifying to the shareholders.

The *Bengal Hurkaru Price Current*, of the 6th May, represents the metal market as being exceedingly dull—a few sales of copper sheathing had been effected. The stocks of metal on hand were, of some assortments, scarce; others moderate and small—still supplies were arriving, and a better market was anticipated.

The following arrivals of specie have taken place since our last:—The Ocean Steam Navigation Company's steam-ship *Hermann* arrived at Southampton, from New York, on Monday, the 3d inst., having on merchants' account, $300,000, of which $130,000 are for Havre. On Tuesday, the Royal West Indian Mail steamer *Teviot* arrived at Southampton with the Mexican and West Indian mails, and on freight, bars of silver and silver dollars, value $240,000; gold coin and doubloons, value $182,563; gold dust and gold bars, value $2500; and 94 lbs. 5 ozs. of platina—total value of specie, 110,000*l.* sterling. On Wednesday, at Liverpool, the British and North American Royal Mail Steam Company's ship *Arcadia*, having on freight 26,000*l.* in specie.

The Royal Mail Steam-Packet Company's ship, *Severn*, sailed from Southampton, on the 2d, with the West Indian and Mexican mails, having on freight 300 bottles of quicksilver (value, 3656*l.*) for the Mexican mines.

HULL, THURSDAY.—The market has been gaining strength since our last; and this morning's price of Consols, 86¾, if supported, will, doubtless, draw up shares after it.—With a good harvest, and more economical management on the part of the various lines, the share market will yet right itself.

RAILWAY TRAFFIC RETURNS.

Name of Railway.	Lgth. Rway.	Present actual cost.	Price per share	Last Div.	*Traffic Returns.* 1848	1847
Birkenhead, Lancashire,& Chesh.	15	997,284	37	5 *p. c.*	£ —	647
Caledonian	130	3,594,470	30	—	4140	—
Chester and Holyhead	59½	2,871,470	19½	—	1051	—
Dublin and Drogheda	35	754,529	23½	—	789	898
Dublin and Kingstown	7¾	473,282	—	6	1636	1649
Dundee, Perth, & Aberdeen Junc.	47	415,073	26	8	986	886
East Anglian (Lynn to Ely)	55½	1,062,742	6½	—	548	—
East Lancashire	26	1,733,915	17¾	—	1086	822
Eastern Counties and Norfolk	295	9,833,859	14¾	4	15840	14446
Eastern Union	51½	979,926	20	—	1303	1036
Edinburgh and Glasgow	53	2,481,767	44	—	3126	3227
Edinburgh and Northern	29	1,392,092	17¾	4*	1395	—
Glasgow, Paisley, and Ayr	64¾	2,097,321	76	6	2102	2617
Glasgow, Paisley, & Greenock	23	845,554	15¾	4	1218	1306
Gt. Southern & Western, Ireland	110½	1,809,787	23	4*	2657	1725
Great Western	281¾	10,970,636	88	7	—	21151
Kendal and Windermere	10½	169,888	23	—	199	193
Lancaster and Carlisle	70	1,395,193	53	4	2264	1436
Lancashire and Yorkshire	136¾	7,597,618	86	7	10300	10205
London and North Western	428	21,513,354	125	8	45845	45156
London and Blackwall	4	1,241,061	4¾	1¾	—	1364
London, Brighton, & South Coast	161½	6,087,822	31¾	4	9956	9157
London and South-Western	189	6,264,164	48½	8	10521	9231
Londonderry and Enniskillen	14½	145,135	16	—	155	116
Manchester, Sheffield, & Lincolnsh.	62	2,336,624	58	5	2554	1942
Maryport and Carlisle	28	440,851	40	—	759	700
Midland Company	422¾	9,853,122	104½	7	20881	20431
Midland Great Western (Irish)	36½	725,332	10½	4*	1038	972
Newcastle and Carlisle	66½	1,407,375	108	6	2616	2320
North British	81	2,800,748	22½	5	2013	1705
Scottish Central	33	—	24	—	805	—
Shrewsbury and Chester	17	780,272	15	—	705	326
South Devon	50½	1,609,071	16	—	—	779
South-Eastern	165½	6,932,181	25	6½	9641	8958
Taff Vale	38	820,056	126	5½	1570	1381
Ulster	36	684,684	52	4½	753	746
Whitehaven Junction	12	147,095	7	4½	199	209
York, Newcastle, & Berwick	242½	4,466,526	32¾	9	11869	11775
York and North Midland	230½	3,799,297	69	10	8275	7038
FOREIGN RAILWAYS.						
Amiens and Boulogne	75½	573,338	7	4	1303	596
Antwerp to Ghent (monthly)	31	—	—	—	—	—
Marseilles to Avignon	71½	—	8½	—	—	—
Dutch Rhenish	57½	—	¾	—	1049	1472
Northern of France	211	2,000,000	5	4	—	—
Orleans to Bourges (Central)	107½	—	—	—	—	—
Orleans to Tours	72	600,000	32¾	4	—	—
Paris and Orleans	82	3,011,720	29	12½	—	—
Paris and Rouen	85	2,982,916	16	11½	4045	8056
Rouen and Havre	59½	—	9½	5½	1684	3013
Strasburgh and Basle (monthly)	88	—	6	1½	—	—
West Flanders (ditto)	—	—	¾	—	1161	—

* Interest.—Total for last week, £206,803, being an increase of £22,124 over last year.

LATEST CURRENT PRICES OF METALS.

LONDON, JULY 7, 1848.

	£ s.	£ s. d.		£ s.	£ s. d.
IRON—Bar a..Wales..*ton*	5 15—	6 0 0	COPPER—Ord. bottoms ..	0 0—	0 0 11
,, ..London ..	6 15—	7 0 0	YELLOW METAL SHEATHING	0 0—	0 0 8½
Nail rods ,, ...	0 0—	8 0 0	TIN—Com. blocks *g*..*cwt.*	0 0—	3 15 0
Hoop(Staf.),, ...	8 15—	9 0 0	,, bars	0 0—	3 16 0
Sheet ,, ,, ...	9 15—	10 0 0	Refined	0 0—	3 19 0
Bars ,, ,, ...	0 0—	8 10 0	Straits *h*	0 0—	3 14 0
Welsh cold-blast foundry pig ..	3 5—	3 15 0	Banca	0 0—	4 2 0
Scotch pig *b*, Clyde	2 3—	2 4 0	TIN-PLATES—Ch.,IC *i*, *box*	1 8—	1 9 0
Rails, average	0 0—	7 0 0	,, IX ...	1 14—	1 15 0
Chairs	0 0 -	4 0 0	Coke, IC	1 4 6	1 5 0
Russian, CCND *c*..	0 0—17	0 0	,, IX	1 10 6	1 11 0
,, PSI	0 0—	——	LEAD—Sheet *k* .....*ton*	0 0—17	0 0
,, Gourieff	0 0—	——	Pig, refined	0 0—18	0 0
,, Archangel	0 0—13	0 0	,, common	16 0—16	10 0
Swedish *d*, on the spot	11 5—11	10 0	,, Spanish, in bd.	0 0—16	10 0
,, Steel, fagt.	0 0—16	0 0	Red.....	0 0—19	0 0
,, ,, kegs *e*	0 0—13	10 0	Dry White.....	0 0—23	0 0
COPPER—Tile *f*	0 0—87	10 0	Shot (Patent).....	0 0—19	10 0
Tough cake	0 0—88	10 0	SPELTER—(Cake) *l* on spot	0 0—13	10 0
Best selected	0 0..91	10 0	,, for arrival	0 0—	—
Ordin. sheets, *lb*...	0 0—	0 0 10	ZINC—(Sheet) *m* export.	20 0—21	0 0
			QUICKSILVER *n* .....*lb.*	0 0—	0 3 6

a Discount 2½ per cent. *b* Net cash. *c* Discount 2½ per cent. *d* Ditto in bond. *e* In kegs ½ and ¼-inch. *f* Discount 3 per cent. *g* Ditto 2½ per cent. *h* Net cash. *i* Discount 3 per cent. *k* Ditto 2½ per cent. *l* Net cash. *m* Discount 1½ per cent. *n* Discount 1½ per cent.

MONTHLY REPORTS.

IRON.—Prices of Welsh and Staffordshire were tolerably steady during the past month, with very little doing for export. Scotch pigs gave way 1s. 6d. per ton, but recovered their position, in consequence of some demand for the United States. The business in all descriptions of iron has been dull. In foreign iron and steel, nothing of importance has been done.

COPPER and YELLOW METAL SHEATHING and TIN-PLATES have undergone no alteration since the 1st ult. The export of these articles continues very limited.

TIN, English and foreign, has been dull—the former continues at last quotation. Banca has fallen 2s. per cwt.

The stock of Banca and Straits on the 1st ult. was .....*Tons* 382
Exported last month.....*Tons* 8
Cleared for home use .....13— 21

Stock on the 1st inst. .....*Tons* 361

LEAD.—About 460 tons Spanish were imported in June, chiefly of hard quality. In English we quote a fall of about 10s. per ton. This metal still continues dull.

SPELTER.—Very little has been done in this metal during the past month, but the price kept steady, not varying more than 2s. 6d. per ton. A moderate quantity could be obtained in our quotation, but the larger holders ask rather higher rates. The imports last month were 1000 tons. On the 1st July, 1847, the stock here was 1800 tons—it is now 2900 tons.—QUICKSILVER has fallen to 3s. 6d. per lb.

IRON.—English of all descriptions has been extremely dull during the month. Of bars in Wales there were sellers as low as 5*l.* 10s., but within the last few days a rather better feeling has prevailed, and 5*l.* 15s. to 6*l.* is asked. Rails of ordinary section are to be had at about 6*l.* per ton, but so little has of late been transacted, that quotations are almost nominal. At the quarterly meeting of ironmasters, Staffordshire bars have been reduced 30s. per ton. Of Swedes iron we have had little in the market, but sales have been made at 11*l.* per ton. Scotch pig-iron, which receded in the commencement of the month, has improved within the last fortnight, and is now firm at the price quoted. The shipments to America have recently been large, but in the absence of continental demand great difference of opinion exists as to the prospects of the article.

COPPER is quiet, with limited inquiry.

TIN.—English is firm—Banca has declined 2s. per cwt., but Straits remains firm at 74s.

TIN-PLATES are in moderate demand, and prices firm.

LEAD is in limited demand.

SPELTER has been quiet for the last 14 days. For early arrival business has been done at 13*l.* 10s., and though 14*l.* is asked by some parties, the market may be fairly quoted at 13*l.* 10s. to 13*l.* 15s. The stock in London, on 1st inst., was 2900 tons.

ENGLISH BAR-IRON.—The market continues much the same. We quote the price 5*l.* 10s. to 5*l.* 15s, free on board, in Wales. At the usual preliminary meeting of the Staffordshire ironmasters, last week, a reduction of 30s. per ton on manufactured iron was agreed to. The Shropshire ironmasters have reduced their price of pig-iron 20s. per ton; and in Yorkshire, we hear, a reduction to the extent of 40s. has also been declared.

SCOTCH PIG-IRON.—The price of this article has again advanced. Letters from Glasgow state, that sales have been made of No. 1, at 45s., free on board there; and that holders are now asking 46s. per ton.—A considerable business has been done for shipment to the States, to which country it is calculated about 40,000 tons have already been exported—nearly equal to the total quantity shipped there during the past year.

We find the total exports of Scotch pig-iron, in 1847, were about..... ....*Tons* 143,500
Of which were shipped to North and South America, India, China, &c., about.. 54,500

And the remainder—say, about.....*Tons* 89,000
to the continent of Europe.—As the present production of Scotland may be taken as equal to that of 1847, and as shipments to the continent are nearly, if not wholly, suspended, and the demand for home consumption greatly fallen off, it is only fair to presume, that, unless the make be much reduced, present prices will not be maintained.

COPPER without alteration, and the demand very moderate, which also applies to English and foreign LEAD.

ENGLISH TIN steady at quotations: in foreign tin very little doing.

TIN-PLATES continue in good demand, and higher rates have been paid: holders are firm.

SPELTER.—But few transactions are reported in this article during the past week.—We quote the price 13*l.* 12s. 6d. on the spot.

GLASGOW PIG-IRON TRADE, JULY 6.—We have had an increased demand for pig-iron this week, and an advance in price has consequently taken place. Sales of mixed Nos. have been made, to some extent, at 45s. and 45s. 6d., cash, and for two months open at 47s. To day we have buyers at 45s. cash—but holders are asking 46s.

— The present prices may be considered barely remunerative to the makers, because, although the general run of workmen's wages is now brought nearly to a level with the rates paid when iron was similarly depressed some years ago, the cost of minerals has been steadily advancing; and all new leases, in consequence of increased competition, have been subjected to much higher lordship, which entails a permanent addition to the cost of the iron made. During the past part of the cufrent year, it has been ascertained that the stocks have been reduced about 20,000 tons, while the quantity made has been fully 15,000 tons less than during the corresponding period of last year. Still, the want of the continental demand continues to be seriously felt, and the more so, as the present aspect of affairs holds out little certainty of any speedy amelioration, either in a political or commercial point of view.

EXPORTS OF METALS TO ALL INDIA FROM LONDON AND LIVERPOOL,

FOR THE FIRST SIX MONTHS OF 1847 AND 1848.

Metals.	1847.	1848.	*In. in* 1848.	*Dec. in* 184
Spelter .....*Tons*	971	1279	308	—
Copper	2307	1989	—	318
Iron, British	4954	11431	6477	—
Ditto, foreign.....	451	165	—	286
Tin-plates .....*Boxes*	4174	2126	—	2048
Lead .....*Tons*	600	286	—	314
Steel	412	99	—	313
Quicksilver.....*Bottles*	—	15	15	—

NEW PATENTS.

E. Dakin, St. Paul's Church-yard, London, widow, for improvements in cleaning and roasting coffee, in the apparatus and machinery to be used therein, and also in the apparatus for making infusions and decoctions of coffee.

N. Beardmore, Great College-street, Westminster, for certain improvements in founding and constructing walls, piers, and breakwaters, parts of which improvements are applicable to other structures.

J. Martin, Killyleagh Mills, Down, Ireland, manufacturer, for improvements in preparing and dressing flax, tow, and other fibrous substances; and doubling, drawing, twisting, flux, tow, and other fibrous substances, and in the machinery to be used for such purposes.

J. C. Robertson, Fleet-street, C.E., for improvements in the manufacture of gas.

W. E. Newton, Chancery-lane, Middlesex, for improvements in the construction of stoves, grates, furnaces, or fire-places, for various useful purposes.

G. Beattie, Edinburgh, for an improved air-spring and atmospheric resisting power.

E. Steel and W. Britten, Lambeth, Surrey, manufacturers, for improvements in the manufacture of tobacco-pipes.

DESIGNS FOR ARTICLES OF UTILITY REGISTERED.

H. Dunnington, Nottingham, hat-band.
F. W. Bassano, Birmingham, roof-lamp.
R. and F. Grassby, Marton, Hull, thrashing-machine.
Davidson and Armstrong, Manchester, spindle-valve for pumps.
A. H. Holm, Liverpool, improved safety-valve box for steam boilers.
W. Hill, Greenwich, flue boiler.
H. J. Fry and W. D. Phipps, Sloan-street, Chelsea, elastic spring boot.
C. Marben, Warren-street, Fitzroy-square, saddle.
Woods and Thomas, Cheapside, secure hook and flexible dress fastener.
C. Greenway, Park-street, Grosvenor-square, stock.—*Mechanics' Magazine.*

EXTRAORDINARY ROPE OF GALVANIZED IRON WIRE.—Mr. Andrew Smith, of the wire-rope works, Mill-wall, Poplar, has just completed one of the most extraordinary ropes ever manufactured; the rope is for the Fowey Consols Mine, is upwards of 567 fathoms (1300 yards) in length, and weighs 4 tons 14 cwt.!—We understand it is composed of the best and longest wire ever yet prepared, and admirably adapted for the purposes for which it is intended—the wire being in one entire length.

THE DUCHY OF LANCASTER.—The annual revenue of the Duchy of Lancaster, like that of Cornwall, is little understood by the public at large, but both are highly oppressive to the mining interest. The following is the official account of the net revenue of the Duchy of Lancaster for the year 1847, which has just been issued by order of the House of Commons. It appears that the income, from all sources, amounted to 69,735*l.* 15s. 10d. The principal features of expenditure are thus made up:—Salaries to the head officers of the duchy, 4977*l.* 10s.; salaries of the new Stannary Courts, 1157*l.* 10s.; salaries to persons employed in the collection of the revenue, 2159*l.* 8s.; surveys and maps, 1943*l.* 15s.; repairs and permanent improvements, 5280*l.* 19s. 4d.; payments to the trustees and treasurer of his Royal Highness Prince Albert, 41,728*l.* 2s. 6d.; investment in the purchase of beneficial interests, 2013*l.*—balance remaining in the hands of the receiver-general, 7493*l.* 17s.

PRICES OF MINING SHARES.

BRITISH MINES.

Shares.	Company.	Paid.	Price.
1000	Abergwessin	7 ..	—
512	Albert Consols.....	1 ..	2½
1024	Alfred Consols	4½..	5
235	Andrew and Nangilles	28½..	5
1000	Antimony and Silver-Lead Mining & Smelting	5 ..	6½-7
1024	AshburtonUnited Mines	7½..	10
1624	Balleswidden	9 ..	18
128	Balnoon Consols.....	25 ..	25
10000	Banwen Iron Co.....	6 ..	6½
1000	Barristown	4½..	1
4000	Bedford	2½..	2½
1244	Birch Tor Tin Mine....	9½..	2
8000	Blaenavon	50 ..	17½
100	Botallack	175 ..	80
120	Brewer	5 ..	7
10000	British Iron, New, regis.	10 ..	13
—	Ditto ditto, scrip.....	10 ..	10
128	Budnick Consols	52½..	35
128	Callestock	17 ..	30
1000	Callington	19 ..	23
1000	Camborne Consols	5 ..	6½
20000	Cameron's Steam Coal	6 ..	5½-6
256	Caradon Copper Mine	9½..	2
256	Caradon Mines	22½..	10
256	Caradon United	24 ..	2½
256	Caradon Wh. Hooper..	21 ..	14
1000	Carn Brea	15 ..	90
3000	Carthew Consols.....	1½..	6
2048	Cascade.....	1 ..	2
112	Charlestown	220 ..	30
166	Cleveland.....	9 ..	5
512	Coatlithe Hill	½..	1
500	Comblawn	5½..	6
128	Comfort	45 ..	50
256	Condurrow	20 ..	28
2560	Cook's Kitchen	14 ..	2
1000	Coombe Valley Quarry	3 ..	4
6500	Cornish Mining Co....	2 ..	2⅜-½
1000	Copper Bottom	1½..	6½
1024	Costeen	4½..	20
225	Craddock Moor	16½..	5
128	Creeg Braws	120 ..	100
500	Culvert Mine	12½..	10
1000	Cwm Erfin	3½..	3½
300	D.Prior & Buckfastleigh	14 ..	26
7100	Derwent	8½..	5
1024	Devon&CourtenayCon.	7½..	1½
1024	Devon Great Consols..	..	210
1000	Dhurode	2 ..	5
186	Dolcoath	30 ..	15
2560	Drake Walls	4 ..	4
10000	Durham County Coal..	45 ..	9
3000	Dyfngwm	10 ..	12½
512	East Alvenney	12½..	12½
112	East Caradon	47 ..	47
2048	East Crowndale	5½..	4½
512	East Combe Silver-Lead	6½..	6½
128	East Pool	5 ..	7
100	East Relistian	22 ..	40
9000	East Tamar Consols...	½..	1
—	East Wheal Albert....	1 ..	3
94	East Wheal Crofty....	125 ..	280
1024	East Wheal Fortune ..	2 ..	3
1024	East Wheal Friendship	3 ..	3½
128	East Wheal Rose	50 ..	850
2048	East Wh. Rough Tor ..	¼ ..	2
—	East of Scotland Iron Co.	2½..	1½
123	East Wheal Seton	14 ..	10
256	Elborough	1½..	2
256	Exmoor Wh. Eliza.....	4 ..	6
512	Fowey Consols	40 ..	45
6400	Gadair	2 ..	2
20000	Galvanised Iron Co. ..	10 ..	9½
4000	Gen.Mining Co.for Irel.	1½..	1½
2048	Georgia Tin Mines	1½..	1½
256	Gonamena	34 ..	35
128	Goonvrea	4 ..	1½
244¼	Grambler & St. Aubyn	— ..	8
100	Great Consols	1000..	400
2560	Great Michell Consols	1½..	3
256	Great Resugga Moor ..	11 ..	6
512	Gt.Wh.Rough Tor Con.	15½..	20
100	Grogwinion	5 ..	—
256	Gwinear Consols.....	7 ..	5
6000	Heignston Down, Con..	½..	2½
256	Herodsfoot	18 ..	27½-30
10000	Hibernian	12½..	1⅝
239	Hobb's Hill	6 ..	3
1000	Holmbush	19 ..	5-4
827	Kirkcudbrightshire....	5½..	3
2048	Lamberooe Wh. Maria	11 ..	4
128	Lelant Consols	90 ..	60
160	Levant	— ..	80
1000	Lewis	15 ..	6½
1000	Llwyn Malees	5 ..	—
3600	Llynvi Iron	50 ..	50
256	Lostwithiel Consols ...	15 ..	15
6000	Marke Valley	10 ..	2
5000	Mendip Hills	2½..	¼
5000	Merionethshire Slate & Slate Slab Co. ..	1½..	2
20000	Mining Co. of Ireland	7 ..	5
256	New East Crowndale..	3¾..	3¾
128	North Fowey Consols..	37 ..	34
100	North Pool	45 .	350
140	North Roskear	5½..	155
256	North Wh. Abraham ..	1 ..	1
262	North Wh. Leisure ..	1½..	2
15000	Northern Coal Co.	23 .	2
128	Par Consols.....	— ..	1000
4000	Pennant	1½..	1
100	Penrhiw	30 ..	65
1280	Perran St. George Un.	13 ..	20
128	Perran Wh. Virgin....	9½..	10
512	Plymouth Wh. Yeoland	6½..	23
256	Polsaith Consols	4½..	7
10000	Rhymney Iron.....	50 ..	20
10000	Ditto New	7 ..	6½
1000	Rosewall Hill	1 ..	5
256	Rosewarva Mines	— ..	12
3072	South Callington Mine	1 ..	2

BRITISH MINES—*continued.*

Shares.	Company.	Pa	Price.
128	South Caradon	10 ..	450
1100	South Dolcoath	4 ..	4
256	Sth. Friendsh. Wh.Ann	16 ..	4
200	South Harvannah	10 ..	25
256	South Molton.....	5 ..	8
256	South Tolgus	10 ..	35
256	South Treiawny	20 ..	12
128	South Wheal Basset ..	110 ..	95
256	South Wh. Betsey....	2½..	12½
124	South Wh. Frances ...	160 ..	185
1000	South Wh. Maria.....	2½..	1½
10000	Southern&Western, Irish	2 ..	4
280	Spearne Moor	30 ..	40
256	St. Austell Consols....	9 ..	—
94	St. Ives Consols	— ..	320
128	St. Michael Penkivel ..	5 ..	10½
999	St. Minver Consols	1 ..	6
1000	Stray Park	43 .	15
9600	Tamar Consols	3 ..	5½
1024	Tavy Consols	4 ..	8
6000	Tincroft	7 ..	4½
1000	Tin Vale.....	2½..	4½
128	Tokenbury .....152½..		10
—	Tollpetherwin	3½..	5
256	Tregordan.....	½..	5
256	Trehane	2½..	22
5000	Treleigh Consols.....	6 ..	2½
2000	Trenance	3 ..	15-20
96	Tresavean	10 ..	210
120	Trethellan	5 .	15
120	Treviskey and Barrier	130 ..	90
288	Trevean.....	1½..	25
128	Trewellard	12 ..	26½
100	United Mines .....300 ..		350
256	Wellington Mines ...	15 ..	25
128	West Basset.....	45 ..	25
256	West Caradon.....	20 ..	90
128	West Cargoll	2 ..	12
512	West Fowey Consols ..	40 ..	15
256	West Providence.....	9 ..	12
200	West Seton	40 .	150
—	West of Scotland Iron Co.	210..	210
120	West Trethellan	5 ..	30
256	West United Hills	— ..	4
512	West Wheal Frances ..	1⅜.	2
256	West Wh. Friendship..	9 ..	8
3725	West Wheal Jewel....	11 ..	1½
2560	West Wh. Maria.....	3 ..	1
256	West Wheal Tolgus ..	21½..	4-5
256	West Wheal Treasury	19 ..	6
5200	Wicklow Copper.....	5 ..	10½
184	Wheal Adams	51 ..	10
1000	Wheal Agar.....	— ..	8
256	Wheal Albert	10 ..	1
256	Wheal Allen	2 ..	5
240	Wheal Anderton.....	23 ..	27
128	Wheal Ann	— ..	50⅞
512	Wheal Anna Maria....	4½..	5⅝
1024	Wheal Ash	4½..	8
120	Wheal Bal	5½..	20
2560	Wheal Barbara	1½..	4-5
256	Wheal Benny	12½..	7
256	Wheal Blencowe	21 ..	5
256	Wheal Bucketts	20 ..	5
256	Wheal Calstock	5 ..	12
136	Wheal Clifford	190 ..	50
1024	Wheal Coad	½..	5
268	Wheal Courtenay	12½..	15
6000	Wheal Curtis	3 ..	¼
256	Wheal Fortescue	6½..	5
388	Wheal Franco	27	15-20-25
128	Wheal Harriet.....	45..	50
256	Wheal Jane.....	21 ..	15
—	Wheal Lawrence.....	— ..	3½
256	Wheal Louisa	8½ .	8
112	Wheal Margaret	79 ..	250
512	Wheal Mary Ann	5 ..	16
237	Wheal Mary Consols..	42½..	5
210	Wheal Prospect	4 ..	7
120	Wheal Reeth	41 ..	150
128	Wheal Rose.....	60 ..	15
99	Wheal Seton	214 ..	750
194	Wheal Sisters	32½..	12
512	Wheal Sophia	3½..	5
128	Wheal Spearne	10 ..	75
128	Wheal St. Ann	9 ..	15
550	Wheal Trescoll	2 ..	10
260	Wheal Trelawny	7½..	50
256	Wh.Tremaine(St.Ervan)	4½..	1½
256	Wheal Tremayne	35 ..	10
92	Wheal Tryphena.....	140 ..	265
242	Wheal Veniand	29¼..	30
256	Wheal Vlow (Perranz.)	⅝..	⅜
184	Wheal Vyvyan.....	— ..	60
256	Wheal Williams.. ..	6 ..	8
1024	Whiddon Mines	4¾..	4¾

FOREIGN MINES.

5000	Alten Mining Company	14½..	3
15000	Asturian Mining Co. ..	12 ..	1½
20000	Australian	2 .	2½
10000	Anglo-Mexican Co....	100 ..	2
12374	Ditto Subscription	25 ..	2½
6000	Barossa Range	¼ ..	1½
3000	Bolanos	150 ..	3
2000	Ditto Scrip	15 ..	3⅜
12000	Brazilian Imperial	23 .	2
10000	Cobre Copper Co.	40 ..	15
10000	Copiapo Mining Co....	14 ..	2½
10000	General Mining Ass'n.	20 .	11½-12
5000	Kinzigthal Mining Ass.	2 ..	3
20051	Mexican Company....	59 ..	—
2000	Mexican & SouthAmer.	8 ..	¾
5000	Mocaubas & Cocaes ..	30 ..	6
29320	Rl.del Monte, regis. / Ditto unregistered	28½..	¾
	Ditto Red Debentures	— ..	4
	Ditto Black ditto	— ..	3
	Ditto Loan Notes ....150 ..		26
7000	Royal Santiago	10 ..	5
11000	St. John del Rey	15 ..	8½
43174	United Mexican ...Av.	28½..	3⅝

JOINT-STOCK BANKS.

Shares.	*Companies.*	*Paid.*	*Div. p. cent.*	*Price.*
22,500	Australasia	£40	£3	£16
20,000	British North American	50	6	41
20,000	Colonial	25	5	7½
—	Commercial of London.....	20	6	19
4,000	Ionian State	25	6	24½ 25
60,000	London Joint-Stock	10	6	13½
30,000	London and Westminster	20	6	21¾
10,000	National Provincial of England	35	5	39
20,000	National of Ireland.....	22½.....	5	19
20,000	Provincial of Ireland	25	8	38½
4,000	Ditto New	10	8	14½
—	South Australia.....	22½.....	—	23
20,000	Union of Australia	25	6	22½ 23
10,000	Ditto New.....	2½	6	2½ 2¾
60,000	Union of London.....	16	6	9¾

MISCELLANEOUS COMPANIES.

Shares.	*Companies.*	*Paid.*	*Div. p. cent.*	*Price.*
10,000	Assam Tea Company	£20	—	£ 3
1,080	Auction Mart	—	£ ¾.....	28
10,000	Australian Agricultural.....	30	1	22
10,000	Australian Trust.....	35	—	30
8,000	British Alkali	25	4	16⅝
10,000	British American Land	35½.....	—	14
8,600	British Rock and Patent Salt	35	18	11
9,915	Canada	32½.....	6	26 28
—	City Bonds (Navigation)	—	3½.....	82
1,800	Corn Exchange	37½.....	14.....	26½
5,000	Droitwich Patent Salt.....	25	⅜*.....	11
2,700	Equitable Reversionary	95	4½.....	95
—	General Reversionary Interest	100	5	100 105
0,000	General Steam Navigation.....	14	1⅜*.....	18
—	Hudson's Bay Stock	—	10	230 240
2,100	Hungerford Market	100	¾.....	45
1,500	London Commercial Sale Rooms.....	—	1½.....	31 32
8,000	London Reversionary.....	22	—	24¾
300	Margate Pier	—	10	196
10,000	Mexican and South American	7	—	3¾ 4
20,000	New Brunswick	75	—	—
11,600	Peninsular and Oriental Steam.....	50	7	51½
6,600	Ditto	40	—	—
5,387	Reversionary Interest Society	100	4½*.....	90
—	Royal Mail Steam	—	5¼.....	45½
8,000	South Australian.....	25	6	16
20,000	Upper Canada	100	5	93 94
20,000	Ditto	—	5	93 94
10,000	Van Diemen's Land	20	—	4

CURRENT PRICE OF GOLD AND SILVER.

Foreign gold, in bars .... per oz.	£3 17 9	New dollars ..... per oz.	£0 4 9½
,, Portugal pieces....	0 0 0	Silver in bars (standard)	0 4 11½

GAS-LIGHT AND COKE COMPANIES.

Shares.	*Companies.*	*Paid.*	*Div. p. cent.*	*Price.*
5,000	British (London).....	£18	£1*.....	£16
5,000	Ditto (country)	19	1*.....	22
1,000	City of London.....	100	10	250
1,000	Ditto New	100	10	250
4,000	Equitable	50	5	38 36
10,000	European	20	1½.....	18
12,000	Gas-Light and Coke Chartered Co....	50	6	55 56
6,000	Ditto New	10	6*.....	11 11½
9,000	General United Gas-Light Company ..	50	2	14
10,000	Imperial	50	6	70 71
46,400*l.*	Ditto Debentures	100	4	100
8,000	Imperial Continental	39½.....	4½*.....	54 56
7,000	Ditto New	28	4½*.....	61
54,500*l.*	Ditto Debentures	100	5	100 102
2,000	Independent	40	6	64
3,000	London	50	6	—
3,000	Ditto	50	5	—
9,000	Phœnix, or South London	43	5	29½
1,000	Ratcliff	80	5	75
4,000	South Metropolitan	25	6	30 3

* Those marked with an asterisk (*) are dividend per share.

SUBSTITUTE FOR QUICKSILVER IN METALLURGICAL OPERATIONS.—The following remarks are from a letter just received from Valparaiso:—"Both here and in Peru, the miners are quite mad about a new method of separating the metals from the ores by means of salt and water, without the use of quicksilver; but, as far as I understand, this system has only been found to answer in a few individual cases, and can only be applied to a peculiar sort of ore. The introduction of the plan has, however, undoubtedly rendered the miners shy of purchasing any more quicksilver than they absolutely require to carry on their operations. It remains, therefore, to be seen if it will answer their expectations, and in a few months the question will be decided."

THE COPPER TRADE—*(From a Correspondent.)*—We understand that it is in contemplation, by influential parties, to form a smelting association on an extensive scale. The locality of the company's operations will be in Cornwall, or at Swansea. This undertaking deserves the earnest consideration of every one engaged in mining pursuits, as it will effectually remove the abuses which at present exist, and which result from the monopoly of the smelting trade. The time for starting such a company is also particularly appropriate, as the proposed alteration in the duty on foreign ores, and the large importations expected from Australia and New Zealand, will very materially assist its success.

FIRE INSURANCE.—On Thursday, in a Parliamentary paper, accounts were rendered of sums paid into the Stamp-office, in Great Britain and Ireland, on insurances from fire, for the quarters ending the 25th of March, 24th of June, 29th of September, and 25th of December, 1847; and of the sums insured by each office on farming stock exempt from duty, for the like periods. Honourable Members, in moving for returns, would confer a benefit by asking for summaries to be made. The largest amount of duty was paid by the Sun-office. In the quarter ending March, the duty paid was 57,484*l.* 10s. 1d.; in the next quarter, 42,925*l.* 18s.; in the next quarter, 38,565*l.* 9s. 7d.; and in the quarter ending Christmas last, 45,568*l.* 4s. 2d. In Scotland, the amount of duty collected in the year amounted to 70,438*l.* 4s. 2d. In England, on farming stock exempted from duty, the amount insured was 58,192,056*l.* The return was obtained by Col. Sibthorpe, who has moved for similar returns for some years past.

COPPER ORES.

Sampled June 21, and Sold at Tyack's Hotel, Camborne, July 6, 1848.

Mines.	*Tons.*	*Price.*	*Mines.*	*Tons.*	*Price*
North Roskear ...	122	£3 19 0	Tincroft.....	60	£4 13 6
ditto	117	4 7 6	ditto	58	2 8 6
ditto	116	6 4 6	ditto	57	1 2 6
ditto	115	5 10 6	ditto	53	3 12 6
ditto	114	3 14 0	ditto	45	3 0 6
ditto	110	5 14 0	ditto	38	3 2 6
ditto	109	4 17 0	ditto	34	7 17 0
ditto	71	5 0 6	ditto	30	2 11 0
ditto	55	4 18 6	South Wh. Francis	84	7 12 0
ditto	43	3 5 0	ditto	74	3 16 0
Consolidated	81	4 17 6	ditto	68	4 2 0
ditto	78 ....

NOTICES TO CORRESPONDENTS.

It will at all times save much trouble, and frequently considerable delay, if communications are simply directed—

To the Editor,
Mining Journal Office,
26, Fleet-street, London.

Also, to avoid trouble, Post-Office Orders should always be made payable to William Salmon Mansell, as acting for the proprietors.

Caradon Wheal Hooper.—Is it fair in "An Enemy to Deception" to request the publication of severe strictures on Capt. Seymour, when furnished us by a mere anonymous writer?

Mr. Spencer's Steam-Whistle shall be described in next Journal.

"R. B." (Exeter) will find the meaning of "standard," in reference to the selling of copper ore, described in our "Glossary of Mining Terms."

The Mining Journal is published at about Eleven o'clock on Saturday morning, at the office, 26, Fleet-street, and can be obtained, before Twelve, of all news agents, at the Royal Exchange, and other parts of London.

THE MINING JOURNAL

Railway and Commercial Gazette.

LONDON, JULY 8, 1848.

We give this week the dividends paid on Cornwall and Devonshire mines, from the 1st January to the 30th June; and, when we consider the lowness of the standard, whereby many mines have ceased to make profits (many through inability, and others through a determination not to sell more ore at the present prices than will meet expenses), the list before us cannot but be viewed with satisfaction. In the corresponding six months of last year, the dividends in 29 mines amounted to 76,030*l.*; the present list shows dividends to the amount of 69,634*l.*, on 18 mines only—being a great increase on these 18. The total difference between the two lists is 6396*l.*; but if we take into consideration that, out of 11 mines which were in the list of 1847, and not in the present, three of them paid 8456*l.* (viz.: Stray Park, 3000*l.*; Callington, 2000*l.*; West Caradon, 3456*l.*), and the other eight several thousand pounds, the great increase in the present paying mines will be at once seen.

The statement of the progress of the public revenue, from quarter to quarter, has been given, with the necessary comment, so regularly in this Journal, as to make it unnecessary now to enter on the subject much at large. The accounts, as made up to the 5th inst., exhibit a deficiency, as compared with revenue produce of the year ending on the 5th of July, 1847, of 2,000,000*l.* sterling; and the deficiency of the Midsummer quarter of the present year, as compared with the same quarter in the year preceding, is about 25,000*l.* We must observe, in order to obtain a just estimate of the earnings of the financial year just concluded, that the preceding year, from several causes, was swollen up to a greater amount than could have arisen from the ordinary and permanent sources of income. It was, in the direct sense of the word, an exceptional year. The year ending at Midsummer, 1846, affords a far juster standard of comparison; and setting the two years (1846 and 1848) side by side, the difference is in favour of the latter, both on the year as a whole, and on the quarters separately.

We need not remind our readers of the extraordinary interruptions to general commerce, which have prevailed during a large part of the financial year just run out; but we must say to them, and to our countrymen in general, that, if they would form a just estimate of the earnings of the public revenue, they must take also into the account the difficulties and hindrances it has had to encounter and to overcome. We are better off, and have earned more, than in 1846, which was, notwithstanding, a year of progress and prosperity. We are ready again, in all our members, to run a new heat, and are perfectly confident we shall carry off the largest and the loftiest prizes. We do not see in any section of our prospective landscape a dissolving empire and a despairing people—we see rather the faces of an heroic nation, bent upon giving further strength and solidity to its vast dominion, by the cheerful confidence, and the emulous activity, they display in doing those works of love, and in prosecuting those tasks of labour, upon which all permanent empire rests, and from which social happiness springs.

In speaking of the Australasian possessions of the British Crown, it has become necessary to say that, by that large term, we mean the whole of the lands held by this country in that distant and interesting region. As a matter of convenience, we occasionally speak of the Australias, north and south, by which we mean that large tract of country long known under the name of New Holland. The former of these is the old colony, of which Hobart Town and Sidney are the chief *nuclei*, and, at this time, are making rapid advances in wealth and civilisation. South Australia is comparatively a new colony, having Adelaide and Melbourne for its principal towns; it is making, perhaps, more progress than its sister settlement in the north; and, with reference to the climate, the soil, and the society, is the most unexceptionable arena for a successful colony to be found in that or any other hemisphere. The rich mines of Australia are in this district, and are, on the whole, fast advancing in value and productiveness. It should be distinctly kept in mind, that these large and rich countries have several working and trading companies for the transaction of the business of various kinds which has resulted from their colonisation The Bank of Australasia, the Bank of South Australia, the South Australian Banking Company, the South Australian Company, and the South Australian Mining Company, are all separate establishments, and each, we are happy to say, in the full sense of the words, prosperous and respectable. We think it requisite to point out these distinctions as error might possibly arise out of the similarity of the titles and nomenclatures now in use by the respective companies.

We very willingly endeavour to bring again to the recollection of our readers—in the northern and midland mining districts of the kingdom in particular—the case of the surviving sufferers by the explosion which took place some short time since, at Hart's Hill, near Dudley. We have always been of opinion, that a large proportion of this class of accidents might be avoided, if the parties were any thing like adequately acquainted with the powers and peculiarities of the machinery they superintend; that, in fact, a large per centage of the casualties—which do unfortunately startle and distress the public sympathies—have their origin in the ignorance or inattention of the workmen, or their immediate superiors. A distressing and fatal accident having, however, arisen, it is the first practical and Christian duty to limit the range and lower the intensity of the sufferings which are inseparable from such calamities. A subscription has been set on foot, in the immediate neighbourhood of the scene, on behalf of the surviving widows and children. The widows are 6, and the orphan children 24, in number by this melancholy event. The number of men killed was 10, and of those seriously hurt 7. There is little need be said, beyond the enumeration of particulars, to sanction an appeal to the benevolence of those whom Providence has enabled to do good in their season, and given power to alleviate the sufferings and the sorrows which form so prevailing an ingredient in the cup of thousands. To such we beg to commend the case of the 30 widows and orphans, rendered so by the late accident at Hart's Hill, near Dudley.

We have no hesitation whatever in yielding our full concurrence in the opinion expressed elsewhere, that the reduction of prices, agreed upon at a recent meeting of the ironmasters, must necessitate one of two things—either a reduction of the workmen's wages, or the blowing out of many of the furnaces now in activity. It is not, we think, to be expected that the masters should continue their operations on the present scale, if their profit, low as it already is, is to be further dwarfed and reduced by the alteration in prices, which has been adopted to keep the workmen employed, and the general business of their districts afoot, at any rate. If the remuneration to the masters, already so attenuated, is to be made thinner still—continuing, in fact, to be made "small by degrees and beautifully less"—it may shortly become the opinion of the masters, that their most expedient course is to find some other and more remunerative occupation for their capital and their time. On the other hand, the workmen cannot be ignorant of how great and how trying the pressure continues to be on all the springs of industry; that, in other countries, in consequence of the commotions which the operative classes have themselves created, employment, and wages with it, are all but annihilated; that, of those blooming fruits, and thick springing comforts, which a little time since adorned the commercial cities of the continent, there are, in too many instances, now nothing more to be seen than the exhausted remnants, or the melancholy wreck. The suspension, and protracted interruption, of so large a part of the heavy business of the continent have closed the markets, and lowered the prices of all our produce exported in that direction. Iron, and its extensive interests, have suffered immensely—the masters, and men of large property, more, we apprehend, than any other class of individuals. It may now be the lot of the operative classes to suffer in their turn, and we may be sure that, if they all bend their heads to the storm, it will pass over them, inflicting much less injury than, if they resist and contend with it, they will be likely to encounter. The interest of rich and poor, of masters and men, in the revival of trade and the rise of prices, is one and indivisible; and, for our own parts, we entertain no doubt whatever that, with a little of that patience and self-denying fortitude, for which the working classes of England have obtained an enviable reputation, the star of our domestic and mining prosperity will dawn again, and be followed by a day spring of success, as full and as satisfactory as any we have hitherto enjoyed.

VALUE AND IMPORTANCE OF WIRE-ROPE AS APPLIED TO STANDING RIGGING.

The "Penelope," Government Steam-Frigate.—This frigate, carrying 42 guns, was, some six years since, converted into a steamer with 600-horse power, having 72 ft. put into her midships—her former masts and yards standing. Application having been made to the Admiralty, and a plan submitted to the Lords Commissioners at the time, to fit her with patent wire-rope as standing rigging, it was submitted, that each of the lower shrouds should be shackelled on singly to collars passing round the mast-head, so that, in case of an action, should any one or other of the shrouds of the vessel be carried away by shot, having duplicate shrouds, that which was damaged could be instantly unshackled and taken down—the duplicate shroud supplying its place, without being compelled, as heretofore, to lift the other shrouds over the mast-head, which operation is, indeed, impossible to effect at sea. In accordance with the suggestions so made, the *Penelope* was fitted; and it is highly satisfactory to find, from a report made to the Admiralty, that the contemplated advantages have been fully realised.

The *Penelope* is now in her second commission as a flag-ship on the coast of Africa, six years having elapsed since her present wire-rope rigging was first fitted; and, from the representations made by the authorities, of the advantages attendant, and the convenience the commodore had experienced, in consequence of his flag-ship being so fitted, it is expected that such principle will be generally adopted; and we are credibly informed, that the Lords Commissioners of the Admiralty contemplate having the whole of the ships of the navy fitted in like manner; and her Majesty's frigate, *Reynard*, requiring to be rigged, is now being fitted at Woolwich, by Mr. Andrew Smith, C.E. (the patentee of the wire-rope), which is now being extensively employed for mining and railway purposes, the same principle, in the present case, being applied as that to the *Penelope*.

IMPROVEMENTS IN PILE-DRIVING MACHINERY.

During the past few years many suggestions have been laid before the public for pile-driving apparatus, which shall combine greater rapidity of action than by the tedious and slow operation of the monkey and crab of the old pile engine, and, at the same time, be far more effective, with greater economy. Of these, Nasmyth's direct-action steam pile-machine is, doubtless, the most powerful; but it is, at the same time, costly, and the tackle necessary for removing the engine from pile to pile cumbersome, which confines its employment to very extensive works, and where large capital is at command. Dr. Potts's pneumatic plan is excellent, but not applicable to all descriptions of ground. Many other attempts have been made to adapt pneumatic power to pile driving, but hitherto, we believe, ineffectually, until Messrs. Clarke and Varley, in their experiments on atmospheric pressure to railways, and other mechanical processes, have at length matured an atmospheric pile engine, which has been at work during the week in driving the piles for the new wharf on the site of the late fire near St. Katherine's stairs, Tower-hill, has proved completely successful, and of which we will now proceed to give a description. A small steam-engine has been erected on *terra firma*, working horizontally, with a 10-inch cylinder, and 18-inch stroke, connected immediately in gear with an air-pump 20-inches diameter. From this a tube proceeds to the pile engine, between the lower part of the frame of which is placed another air cylinder and piston, with 30-inch stroke. The piston-rod is attached to a chain passing over a pulley on the top of the frame the end of which supports another pulley, through the sheave of which passes another chain, one end being attached to the rammer, weighing 26 cwts., and the other passing under the bottom of the frame, and attached to the head of the pile. The steam-engine to work, the air-pump is kept in constant action, and rapidly exhausts the pile cylinder, below the piston; the air is then admitted under the piston, when the rammer falls by its own weight, raising the piston at the same time, ready for the next exhaustion—the descent of which raises the floating pulley and rammer, giving a succession of short heavy blows, rapid, of course, in proportion to the number of strokes per minute of the engine; and as, by the arrangement of the pulleys, the distance between the pile head and the face of the rammer is always the same, a regularity of action is obtained, quite unknown in the old pile driver; the injurious concussion and rebound of the hammer, consequent from great height of fall avoided, the pile much more firmly imbedded in the soil, and the rammer being permanently fastened to the chain, no time is lost for re-attachment after every blow. The connection between the air-pump and the pile cylinder is formed by a series of cylindrical galvanized iron tubes, $\frac{1}{16}$th of an inch in thickness, in 20 ft. lengths, 3 in. diameter, united by flexible joints, forming a chain of tubing, by which, during the progress of a work of any length of river wall, the engine and pump will do their duty efficiently, without removal from the spot on which they are first erected. The working of the apparatus was perfectly successful, being most satisfactory to the proprietor, and, of course, highly gratifying to the patentees, who, having now proved the correctness of the atmospheric principle as applied to one branch of mechanics, we hope will be fortunate enough to get an early opportunity of establishing that more important one—the elastic tube railway—by having to lay down a working line, if of only short dimensions, and which would prove most decidedly the correctness, or otherwise, of the system of atmospheric traction.

Johnson's Roller Eccentric—Improvement Suggested.—Sir: In your Number for April 22 [see *Mining Journal* of the 29th] Mr. W. B. Johnson is stated to have taken out a patent for some improvements in the steam-engine, among which is an eccentric, to work with rollers in the band. Some time back, I altered a dressing machine, and used an eccentric instead of the usual crank. My improvements, I thought, were calculated to render it easier to work; but I did not find it so far answer my expectations. A friend suggested that this arose from there being so much more friction on an eccentric than on a crank; and so I set to work to reduce it. The result was, the placing of three rollers in the centres, instead of in the band, which, I think, is preferable, as they are more out of the way, and can be larger. I made the models for casting, but cannot say if the plan will answer, as I have not tried it in work. Should it be of any use to Mr. Johnson, or any other person, I shall be happy to show it to them.—W. J. Joyner: *Aveley, near Romford, June 29—Mechanics' Magazine.*

PROSPECTS OF THE IRON TRADE.

[from a correspondent.]

At this time of temporary depression in this great staple of the country, it may not be out of place to say a few words as to the present position and prospects of the trade. The depression has undoubtedly arisen from the pressure upon the money market during the last and early part of this year. It affected the iron interest only after all other interests were prostrated by it; and I feel assured, as I believe the reader will upon the following data, that it is but a passing cloud, of momentary endurance. The manner in which the money crisis has acted upon the iron interest, has been by causing the railroad companies to delay their orders for rails. They, suffering in common with the rest, applied all the moneys they could collect by calls and loan to the earthwork and formation of their lines, leaving the rails, the last thing required, to be ordered at the last moment, when their resources were greater. Hence orders fell off, and depression of prices ensued. That this, however, cannot last long, and that the delay will tend to run up prices at a future period, I shall proceed to show as briefly as I can, by discussing that all important question in political economy—that of supply and demand. Before, however, proceeding to figures, I may aptly quote a great authority, Mr. M'Culloch, upon the subject. That gentleman observes, in the last edition of his work (article, Iron, p. 783), that "if only half the railway projects now (1847) on foot be executed, the production of iron, vast as it at present is, will be quite inadequate to supply the demand."

This opinion of Mr. M'Culloch's is demonstrated not to be overcharged, by considering the data upon which it may be supported. The following summary of the number of miles of railway actually sanctioned here and abroad will speak for itself. There was passed in 1844 and 1845, acts for 3543 miles of railroad—capital, 78,471,000*l.* (see Sir. R. Peel's speech, April 24, 1846); and in 1846, for above 4000 miles (see Parliamentary return); whilst abroad there were constructing in 1845 (the greater portion is still unfinished), 10,381 miles—viz.: In France, 2410 miles; in Germany, 2347 miles; and in America, 5624 miles (see Parliamentary return, November, 1845); consequently, there are, at home and abroad, above 17,000 miles of railroad in the course of construction at the present moment, the rails and iron work for which have still to be ordered—very little of it having been as yet provided. Assuming that the home railways alone are to be looked to as regards the home market, we have above 7000 miles of railway, which will require, at 500 tons per mile (a moderate estimate), 3,500,000 tons of iron, certainly within the next four or five years. Where this iron is to come from it is impossible to conceive, as the ordinary make is not, in consequence of the great application of iron to the purposes of construction, much above the ordinary demand, and not at all equal to an extraordinary demand of this gigantic proportion; especially when it comes, as it will come (from the order being delayed), upon the market all at once. Looking to these facts and figures, which admit of no denial, and to the other signs of the times—to the amount of calls in this country, which, during the whole of 1847 and this year, have averaged more than 3,000,000*l.* a-month—showing conclusively that, notwithstanding the late pressure upon the money market, the railways have been advancing as rapidly as the resources of the country will allow, towards that state "when they must have rails"—the only conclusion to be arrived at is, that the present depression in the iron trade is but a passing shadow, and that prices must shortly range at a figure even higher than between 1830 and 1840, when pig-iron was at 7*l.* and 8*l.* per ton; for, in the words of Mr. M'Culloch, "the production of iron, vast as it is at present, will be quite inadequate to supply the demand."

Mining in Mexico.—It will no doubt be gratifying to those interested in the working of the mines in Mexico to learn, that the treaty with Mexico and the United States, respecting the terms of peace between the two republics, and the concession to be made by the above, on the payment of an indemnity of $25,000,000, has at length been ratified, and passed the Senate of the United States. The $25,000,000 payment to Mexico will be made in four instalments, about half of the first instalment has already been forwarded to prove the good faith of the United States. The late war has been most detrimental to mining operations, as the adventurers had not only everything to dread from the exactions of Santa Anna and his commanders, but the enemy. The present treaty will, we trust, be the means of conciliating the two countries, and open a wide field to their commercial intercourse. Out of the above sum, the miners will be indemnified for the losses they may have sustained during the contest; and henceforth it is to be hoped, that mining enterprise, both in Mexico and New Mexico (U.S.), will receive every protection from their respective Governments.

Mining in France.—The present aspects of affairs throughout France is most distressing, especially in the large manufacturing cities and the mining districts. The recent melancholy outbreak in Paris, the unsettled state of the Government, added to the great scarcity of money, and, above all, want of confidence among speculators, has had a fatal influence on mining operations. In the coal basins of La Loire, and others, many of the pits have suspended working for the present; and those that are in operation only employ a portion of the regular hands, in consequence of the few orders that are now given. It is, however, to the praise of the companies to state that, although there is the present depression, they are thoughtful of the wants of those who depend upon them for their existence, and allow a certain portion of their usual daily earnings. This has had a most beneficial effect in preventing an outbreak in the several districts, as men and masters, under the crisis, sympathise for each other. The depressed state of the railways, and the uncertainty as to what the new Government will do, as regards their appropriation, by allowing to the shareholders a certain per centage, has stopped all contracts for rails and other *materiel*, which has seriously effected the ironmasters, who only keep a small portion of their furnaces and forges in full work. This panic is most seriously felt by all embarked in mining adventures. The proposed *projet de loi*, regarding the reduction of the tariff duties on foreign iron, copper, lead, zinc, machinery, coals, &c., proposed by the late administration, will for a time remain, until the present Government becomes settled, and the National Assembly able to discuss this important subject to the mining interest of France, and the public at large.

Mining in Belgium.—The Government has published the official return of the exportations and importations during the last six months, which show a falling of in the revenue, although not so extensive as was expected. With regard to the exportations, iron, coal, machinery, arms, &c., form a very prominent part in the decrease, which is caused by the existing depression of affairs in France, the unsettled state of Austria, Prussia, and, indeed, the whole of the northern continent of Europe, to which Belgium made large exports, To prevent a serious alarm to the iron and forgemasters of Liege, and other districts, and the colliery proprietors of Mons, &c., the Government has entered into contracts on account of the State, so as to keep the men partially in work, and save their families from starvation. Affairs in Belgium are, however, more cheering than with their neighbours; and it is to be hoped that an improvement in the aspect of mining, and other industries, in both countries, will take place soon.

Contract for Coals for Penang.—The Admiralty Commissioners have given notice that, on Thursday next, they will be ready to receive contracts for supplying and delivering, at Penang, 420 tons of West Hartley, or Buddle's Hartley, coals. Tenders must be addressed to the secretary, at the Navy-office. Very extensive contracts are expected shortly to be entered into for supplying the steamers of the Royal navy with coals in case of a sudden emergency—due notice of which will be given.

Irish Fisheries.—It having long been notorious that one of the greatest evils under which Ireland suffers is the want of employment for her people, it is with great pleasure that we have received a prospectus of the Royal Irish Fisheries Company, which has just been incorporated by Royal Charter, and is patronised by his Excellency the Lord Lieutenant of Ireland; the Marquises of Lansdowne, Sligo, and Londonderry; the Earls of Roden, Clancarty, Gosford, and Glengall; Viscount Lorton, Lord Cloncurry, and various other noblemen and gentlemen. The object of the company is to develope the Irish fisheries by providing first-class boats of 40 and 70 tons for fishing the deep sea grounds along the entire coast—selecting, in the first instance, suitable localities on the west. The boats are to be fully provided with all the necessary *materiel* for successfully prosecuting the fisheries, and curing houses, properly superintended, are to be established at the various stations. The plans are, we understand, prepared for immediately commencing operations on the bank recently explored by Government survey, between the Blaskets and Loop Head, off the coast of Kerry, a fishing ground which was long since pointed out to the directors. The capital of the company is to consist of 100,000*l.*, in shares of 25*l.* each, on which 5*l.* only will be called this year, and no further call will be made without the proprietors being convened together, and a statement of their affairs laid before them. We are informed that the deep-sea fisheries promise, with very little outlay, to be highly profitable, as independently of home consumption it is expected that a large export trade will be opened for cured and dried fish with both Great Britain and the continent. We cordially wish the company success, as anything that can tend to add to the comforts and industrial means of any portion of the Irish community is deserving of support from all those who feel an interest in the prosperity of the sister country.

THE IRON TRADE IN AMERICA.

The following table exhibits the exports of iron from Great Britain to the United States for the two last years; it will be perceived that they have increased very much, particularly in the finer descriptions of iron. The shipments from Wales direct have been much in advance of any former year:

Exports of Iron from Liverpool, in 1846-7, to New York, Boston, and Philadelphia.

		Rails.	Bars.	Hoops & Sheets.
To New York, in 1846	*Tons*	6440	7026	901
„ 1847		6642	20546	4855
Increase		202	13520	3954
To Boston, in 1846	*Tons*	6030	4114	623
„ 1847		5843	13583	1670
Increase		—	9469	1047
To Philadelphia, in 1846	*Tons*	44	1667	162
„ 1847		150	3414	670
Increase		106	1747	508

The extensive iron mines in Alabama are beginning to attract the attention of capitalists in that State. W. W. Wood, Esq., a gentleman who has been inquiring into the different processes of iron manufacture in the north, advises his friends in Alabama to proceed immediately with the erection of works. Speaking of iron-making in these regions, he says—"By a new process I saw in operation, an iron, of the very best quality, is made directly from the ore, at the rate of 1 ton of 2240 lbs. per 24 hours, at a cost of 16 dollars per ton, and a consumption of from 170 to 200 bushels of charcoal—the cost of which is included in the expense of producing the 1 ton. Expense of working a single forge 10 dollars per day, and the machinery requisite for a single forge would be sufficient to keep six forges in operation—consisting of one direct-action steam-hammer, one steam-engine, and blast-cylinders; and if requisite to make other iron, tilted bars or blooms, then a train of small rolls would be required. One bloomer can attend six forges as well as one; therefore, to work a single forge would be attended with no economy."

I do not know what is the "new process" to which he alludes, but think it probable that it is in use in your own districts, whence it has been introduced here. Mr. Wood gives it as the opinion of the oldest ironmasters, who went to witness the new invention in operation, that it is destined to effect a complete revolution in iron-making; by it, they say, the best quality of wrought-iron is made directly from the ore, much cheaper than the pig-iron, from which the wrought-iron is subsequently made (when carried on to any extent), at a loss of 20 per cent. in the weight of the pig. The cost of converting the cast-pigs into wrought-bars is 20 dollars per ton. In his report, Mr. Wood further says—

A furnace, or furnaces, may be worked advantageously 255 days in the year, excluding Sundays, and allowing 45 days for repairs, contingencies, &c.—say, four furnaces in operation to produce 3 tons of iron per day, which would allow for each furnace per day 1680 lbs. of iron, being 560 lbs. less than what is estimated can be turned out per furnace. Iron produced, 3 tons×255 working days, 765 tons—worth, in Boston, or New York, $60 per ton (765×60)	$45,900
Professor Barnard informs me it will cost $80 40 c. per ton to deliver the iron at the wharf in Tuscaloosa, from the ore beds, or ⅔ cents per lb.—first transportation	$6426
Transportation from Tuscaloosa to Mobile of 765 tons, at $3 per ton	2295
From Mobile to the north, $3 per ton	2295
To deliver 765 tons from the works in Alabama, in New York or Boston	1106
Cost of making 765 tons of iron—say, $20 per ton	15300
Entire cost of transportation to a northern market, including the cost of making it, which is an excess of $4 per ton, at $20	26,316
Leaving a net profit of	$19,584

In this calculation, he has reckoned the value of the iron at the lowest figure, 60 dollars. The best—the Low Moor iron of Scotland, used for manufacturing locomotives—costs 120 dollars in Boston; the next best—the hammer iron, made from ore at Salesburgh, Connecticut—costs 100 dollars; and he does not fear that the quality of the Alabama ore would ensure their iron a price equal to the last.—*Birmingham Journal.*

ASHBURTON UNITED MINES.—We have received a report upon these mines by Professor Ansted, but its great length compels us to confine ourselves to noticing some of the principal particulars. The Ashburton United Tin and Copper Mines are situated in the mining district to the south-east of the granite of Dartmoor, at a distance of about a mile from the granite itself. The lodes worked in these mines are several in number. Prof. Ansted enters into a very minute account of the appearances of these lodes, which we have not space to give; but besides these, he says, that there is a cross-course near Murray's shaft, containing spar, spotted with copper; this at first seems to bear north and south, but, probably, does not hold this bearing. It is understood to make tin in the West Beam Mine. The lodes of the Ashburton Mines are continued into the West Beam sett adjoining; this latter mine being more to hill, the lodes have a more considerable back, and the adit is common to the two setts. The Ashburton setts extend about 600 fms. on the course of the lodes, but a portion in the middle is, probably, barren. The distance between the northernmost and southernmost lode is about 250 fms. We have then a minute description of the shafts and the levels: the Union shaft is sunk 14 fms. to the adit; Hobson's shaft, which is 140 fms. distant, is sunk 18 fms. to the adit; Parry's shaft is 64 fms. further north-west, and is 22 fms. to adit; while Murray's, which is 64 fms. on in the same direction, and about 100 fms. from the West Beam engine-shaft, is 34 fms. to the adit. The chief levels are driven at 14, 25, 35, 45, 55, and 65 fms. respectively. The Ashburton Mines have been very extensively worked by the ancient miners, and much also has been done by the late proprietors. Prof. Ansted earnestly recommends the present adventurers to clear the mine, and carefully dial it; he is not inclined, from what he has at present seen, to advise any large expenditure on the old and greatly worked lodes; if they contain anything of value, this must, no doubt, be below the present workings. He directs particular attention to the branches of tin near Murray's shaft, and their continuation towards the south-east; they might, with advantage, be sought for by cross-cuts in the levels where they have not yet been reached: this work, and the carrying on operations, so as to lay open the value of the mine here, will be useful, and very inexpensive, if not remunerative. He next observes, that the copper branch is also a point of great interest and importance in this mine; it should, he thinks, be pursued very steadily, and chiefly with a view to lay open the resources of the mine in this respect. Lastly, he advises that the works from the Union shaft, and in the southern district, be regarded, for the present, as strictly trial works; if the mine pays, the work done here might be increased with advantage; but a few drifts continued in the adit level would, perhaps, bring out an important result, and would be sufficient for the present. "I think (he concludes) it will be found that the plan of the workings thus proposed, or some one analogous to it, will assist to place these very important mines on a proper footing; they have suffered very much of late from neglect of every kind. The pitches have been badly set, the ends badly driven, and the work altogether has been without any definite object. The ores, especially the copper ones from the copper branch, ought to be analysed carefully for silver, cobalt, and nickel." The mines, however, are now placed under different and very efficient management, and a better system is now being pursued, which, we have no doubt, will carry out the objects proposed by Professor Ansted.

WHIDDON MINE.—We have received a report on this mine from Professor Ansted; but which, like that of the Ashburton, is carried to too great a length for publication. After entering into the details, the Professor concludes thus:—"The Whiddon Mine cannot be considered as offering any prospect of immediate return. It requires capital and time to be fairly developed, and a more distinct and definite system of operations than has yet been pursued. The points of the mine that offer good promise, are the workings in the squat of ore to the east of the shafts, in the shallow adit and the back, and the chance of the intersection of the contra-lode with the main lode. In the former, it is to be hoped and expected that the quantity of ore will increase; but, in the latter, I should anticipate some improvement in the quality also. This, therefore, is probably the more important, but requires time to prove; the other is more immediate, but less likely to be of advantage. The lodes are little affected by heaves, and not at all by slides and flookans. The mine is easily drained."

ACCIDENTS.

Ince Hall Colliery.—As T. Whilford and J. Atkinson were repairing the pitwork, a bucket-load of bricks was ascending, when, from a sudden jerk of the engine, the rope broke, precipitating the men to the bottom, a distance of 70 yards, from whence they were taken up dead.

Colliery Explosion at Wednesbury.—On Tuesday last, another explosion took place, in a coal mine occupied by Messrs. Russell and Son, the consequence of which was that six men were very seriously injured. It seems that the men had been down the pit about two hours when the explosion took place. Previous, however, to their commencing work, some of them took the safety-lamp and tried the pit, with the doggy, the latter remarking, that there were only two or three inches of fire-damp in the roof of an old working, and that "it would not hurt." The men accordingly proceeded to their employment. About eight o'clock a quantity of rock accidentally fell from the roof of the pit, carrying with it the combustible matter; this was ignited by the candle which a man named Meake was using, thereby causing the explosion. The doggy, Thomas Dollman, is very much injured. John Dollman, T. Bellamy, J. Herrington, T. Walker, S. Goodwin, and J. Meake, are all very much burnt, some of them not being expected to recover. The works are blown to atoms, so that the proprietors must sustain considerable damage. As usual in these cases, which are becoming of almost daily occurrence, no cause is assigned for the accident.

Original Correspondence.

CAST-STEEL.

SIR,—It is to be regretted, that my summary of Mr. R. Mushet's facts on this rare and little-known metal is incorrect; but your readers must much more regret, that Mr. R. Mushet has not expounded that incorrectness in detail. I have been misled by the facility, perhaps, with which he runs one subject into another. Yet one point seems clear; he attributes the cellular structure of certain cast-steel, of No. 2 pig-iron, and of high-blown finer's metal, to the presence of ill-fused malleable iron floating thereon. In proof of this view, a new example is instanced of the spongy distension of malleable iron before it reaches fusion, which indicates the condition in which it floats. We ought, therefore, to detect these spongiose floaters upon honeycombed pig-iron and high-blown metal, both in their fluid condition, and in their heterogeneous fracture when cold. Who has seen them? The cessation of these malleable floats in white pig-iron, where they ought to have increased, is accounted for by another new theory, that in this stage the ore has been not carbonised, but only deoxidised, and has not carbon enough to *render it infusible.* As this depends on another theory, lately advanced by Mr. Mushet in your Journal, but supported by no detail of facts commensurate with an assertion of such magnitude, that *pure iron* is *very fusible,* I cannot enter upon it; but I would ask, *where,* in a pig of white iron, uniformly crystallised, do these particles of pure iron lie, which, by being destitute of carbon, are so fusible? Cannot there be found in white iron, "*that very slight amount of carbon, which constitutes the distinctive character of (infusible) malleable iron.*" Again, if this explication would answer for the blast-furnace, whence is the "pure fusible iron derived" in the refinery, to banish the honeycomb-making floaters from its crystalline product? I have heard the cellular impressions, or honeycombs, accounted for in this way—that in the transition from fine No. 1 to mottled and white iron, the alloyed carbon is changing its condition of affinity, and, therefore, is chemically more liable to oxidation; and passing off in the state of gas, which some of us, even with our diminutive powers of observation, may have witnessed, those cells, or perforations, in the consolidating metal are produced, which we term "honeycomb." When the definite compound of white iron is attained, the evolution ceases. So also is the crystallised refiner's metal without cells; but as the chemical disorganisation proceeds in a further stage, gas is again evolved, and in high-blown metal the cells reappear. I must remain contented with this explanation until Mr. R. Mushet's subtle refinements are placed in a more practical, consistent form.

As to the experiment which is to awake my reflection, should it succeed in that particular, it does not appear to confirm the infusible floating malleable theory of strength. Four parts of No. 1 iron, and one part of wrought-iron, will undoubtedly produce in mixture No. 2, according to experience; and it is quite to be expected there will be a mutual disturbance of affinity, evolving gas; but if the wrought-iron is poured *fluid* into the other, where is the spongiose distension, *previous to fusion,* which is necessary for the effect? Is the fluid malleable iron *also* lighter than grey iron, and floating on the surface? Surely, the microscopic eye which detects and can recognise "scales and particles of malleable iron" in the fracture of blistered steel, or silver in lead (?), can equally point out these scales and particles in the cast-iron, which bent before it gave way, and in the pig-iron of the blast-furnace. The next form of the experiment, that a small quantity of cast-iron exposed for an hour to some intense conceived degree of heat, greater than that *which melts wrought-iron, and makes it fluid enough to pour,* should become decarbonate and brittle, is such an inevitable common-place result, *even at an inferior heat,* that I do not see the point of quoting it, unless, indeed, the process went the other way, and the produce was No. 1 Scotch pig-iron, fragile from its fluidity. This would prove the theory; and is more probably, therefore, what Mr. R. Mushet intended should take place.

In these hyperborean manipulations, at stupendous heats beyond the melting point of platinum, it would be satisfactory to have a little more tangible detail. To gain this, Mr. R. Mushet should study the writings of his late father. The scrupulous exactitude of the details which he advanced, leave on the mind a perfect sense of the trustworthiness of the writer, and that the experiments narrated were really performed. But Mr. R. Mushet's examples start forth like Minerva from the head of Jupiter, armed *cap-a-pee,* to do battle at the moment, leaving an impression that the example, as well as the theory, is a creature of the brain.

Mr. R. Mushet informs us, that "fusion *invariably commences* at the *bottom of the crucible.*" His furnace may be so constructed that the bottom of the crucible is the hottest place. I should rather not try it. In my furnace, fusion commences on the salient points which touch the sides of the crucible, which are in contact with the fuel, and are thinner and hotter than the bottom, which rests upon a brick. These liquified portions then fall to the bottom, instead of falling first and being liquified after. The rising fluid attacks the under surfaces of the metal, until the whole subsides in fusion. To say that fusion commences at the bottom, because the fluid *must* fall and be found there, is to say, because rain accumulates on the earth, that it "*invariably commences there.*"—FERREUS: *July* 4.

NEW THEORY OF THE ORIGIN OF EARTHQUAKES.

SIR,—The extracts in your paper of the 17th inst., from my communication on "Earthquakes and Geology," were fair and candid. Still I think it due to your readers, and to the system of geology I have propounded, to say, that the communication originally appeared in a local paper, and that the geological extracts you gave were points on which I had proposed to discuss the merits of the Neptunian system of geology with a Plutonian geologist, who had done me wrong, although perhaps unintentionally. As it will, doubtless, be more interesting to your readers to peruse a brief outline of the Neptunian system of geology propounded by me, than the extracts referred to, I proceed to give a condensed outline of the system. —1. The matter of which our globe is composed, first existed in the gaseous state.—2. The change from the gaseous to the aqueous, and matter in solution, was gradual; the volume diminishing as matter changed to a condensed state.—3. The aqueous matter, from which the primary rocks were deposited, had an irregular easterly flow, modified by the spherical form; and the centrifugal force driving most matter towards the equatorial crust. —4. The elevation above water of the primary and transition mountains (tops are meant) by deposition of matter, and diminished volume of water, stemmed the easterly flow of the ocean to the north-east, during which period the old red sandstone was deposited; many eminent geologists make gross blunders, by mistaking the new red sandstone for old red sandstone; the coping of the old red sandstone again dammed the flow of the ocean—so that, during the deposition of the carboniferous, and subsequent formations, the flow of the ocean was westerly. Whilst I disagree with the idea that the temperature of our globe was equal, or nearly so, I believe that the temperature has been different at different periods, according as dry land prevailed; likewise, that different races of animals and plants existed at different periods, suited to the different temperatures that prevailed at different periods. The fossil remains of animals found in Britain and Russia, that have evidently lived in hot climes, I hold never lived in Britain or Russia; but were carried out of the Asiatic continent by the westward flow of the ocean through Europe, and deposited where they are found. By the operation of Nature, the oxygen and hydrogen of water is constantly absorbed, and changed into vegetable and animal matter. By such progressive gain of the solid parts of the earth over the aqueous, a time must ultimately come when a diminished volume of aqueous matter will produce a diminished quantity of evaporation, which will produce a temperature unfavourable to existing races of animals, and to the vegetation by which they are supported. Nature and revelation proclaim, that man is but a tenant of the globe for a time.

I leave your readers to judge whether the following division of the above theory will agree with a fair interpretation of the six epochs of Moses:—1. The creation of the gaseous matter, out of which the earth was subsequently fabricated.—2. The gathering of the gaseous matter of the different planets to their several places in space.—3. The deposition of the primary or unfossiliferous rocks, first dry land.—4. The rarefaction of the atmosphere, so as to enable the heat and light of the sun to give life and animation to the earth, and the deposition of the oldest fossiliferous rocks. —5. The deposition of the intermediate fossiliferous rocks.—6. The deposition of the newest fossiliferous rocks, finished by the creation of man, whose remains are confined to the supersoil of the earth.

Allow me to illustrate the origin of the irregular outline of the European primary rocks. They may be divided into westerly and easterly groups—the first being the primary rocks on the west of Portugal, Ireland, Scotland, and Norway; the second being the Pyrenees, the Cumberland, and the Alpine Mountains. Observe, the latter are placed opposite the gaps in the western group. It is evident that a south-easterly flow of the primeval waters, with unequal force, during the deposition of the primary rocks, would give an irregular outline: in those parts of the chain of deposition where the flow was rapid, the deposition could not take place; the matter would be carried forward, and deposited where the flow had slackened—for instance, betwixt the primary rocks of Ireland and Scotland the flow of the waters was rapid—thence the matter was carried forward and deposited where the Cumberland group exists. Ireland was separated from Scotland by a current in the primeval ocean. Ireland was detached from England by the westward flow of the ocean, during the deposition of the carboniferous rocks. The waters of the Bay of Biscay had once an outlet to the Mediterranean Sea. Portugal and part of Spain were then separated from the continent, like England, at present, from France, by the outlet of the German Ocean. A time will come when the outlet of the German Ocean will be closed by deposition of matter; then England will be joined to the continent, like Spain and Portugal. Had the flow of the primeval ocean been equal, the Pyrenees, Cumberland, and Alpine Mountains, would have deposited in the gaps of the western group; the chain then would have been continuous, and the figure of Europe altogether different, with a total absence of those noble rivers, so beneficial to its inhabitants. Geology is much mystified, by such errors as placing the granite rocks of Wales in the class of primary; granitic and other unstratified rocks are of different ages. The granite rocks of Wales are subsequent to the primary.

I regret that I wrote so unintelligibly as to be misunderstood upon one point on earthquakes. What I intended to say was, that a considerable shock of earthquake might occur in fair weather, under favourable atmospheric conditions; but that no tremendous earthquakes would occur, unless they took place very shortly after storms of wind or rain; and that they are transmitted furthest in the direction of the storms that precede them. If any great earthquake occur in any country, without being preceded by storms, I think it will be found that such earthquake occurs in districts that have an under stratum of semi-fluid matter.

Comrie, June 30. JAMES DRUMMOND.

NEW COMPRESSED-AIR LOCOMOTIVE.

EXPERIMENTAL TRIAL OF THE MACHINERY OF BARON VON RATHEN'S PATENT.

SIR,—You have on several occasions directed attention to the construction of an experimental carriage, at the College of Civil Engineers, at Putney, which is to be propelled by compressed air, carried, along with the trains, upon the locomotives and tenders, from station to station, such stations being erected at convenient distances of from 10 to 12 miles. You have also published an extract from the works of Dr. Crelle, of Berlin, in which that gentleman has endeavoured to show, that, of all the different systems now known, compressed-air locomotion is the only one which is more economical than steam. Dr. Crelle is considered a great authority in these matters; and he declares this system to be the best in every degree; consequently, we cannot doubt but that a report on the trials witnessed on Tuesday and Wednesday last, at Putney, will be found of some interest to your readers.

The compressed-air pumps, of capacities diminishing from the higher pressure in an equal ratio, were worked by a steam-engine. The pumps were immersed in a water vessel, so as to absorb the heat evolved by compressing the air—a method which we regret has never been applied, on atmospheric railways, to the pumps for rarefying the air in the main tube. A reservoir, composed of cylinders of small diameters, similar to gas-bottles, was filled, on the first day, to 30 atmospheres, and yesterday to upwards of 40 atmospheres—viz.: 600 lbs. to the square inch. The cylinders of the reservoir appeared well prepared, and calculated to support this high pressure; and yet an uniform working power was obtained by the action of the moderator (regulator of expansion), equal to only two atmospheres by the moderator, or 15 lbs. effective, to the square inch; by which the machinery, driving-wheels, with endless chain, &c., were put into regular motion, at 60 strokes per minute.

On Wednesday, the motion was regulated up to 120 strokes per minute, and the same regularity obtained.

An apparatus, invented by Baron von Rathen, for reducing the heat of the compressed air in the act of expansion, worked extremely well. Without at all holding out this merely experimental carriage as a pattern, (which it never was intended to be), our opinion is, that it proves clearly and practically that the invention, for all practical purposes, is now completed; and the great difficulties, in cases of compressing the air to high degrees, and in using it expansively, with uniform working power, at low degrees—which prohibited till now the application of this elastic power as a substitute for steam—are totally overcome. We must confess, that we should hail it as a new era in locomotion, were fire and steam, so dangerous to be carried along through fields and towns, to be replaced by this agreeable and safe power.

And, although we may not follow the minute calculations of Dr. Crelle, to demonstrate that compressed-air locomotives possess over steam locomotives also the advantage of economy, we feel, nevertheless, inclined to believe, that if compressed air for 10 locomotives was produced, or obtained, in fixed stations, by a single steam-engine, provided with all known improvements in furnaces and boilers, only applicable in stationary machines, the propelling power (compressed air), thus fabricated, as it were, wholesale, cannot be at all so costly as where the propelling power (steam) for 10 locomotives were obtained by 10 separate steam-engines, each placed on a separate locomotive, and where heat and fuel are sacrificed to velocity. We cannot doubt that, with the same fuel consumed by those 10 locomotive engines, much more than four times the steam-power could have been created by a single stationary engine; and it is a well-known fact, that the effective power in locomotives is less than one-fourth part of that obtained in the boiler.

We are not afraid to recommend to your readers an inspection of these interesting experiments, and the beautiful and interesting College at Putney; to which we are sure, by a note addressed to the above-named patentee, at Putney, or to the very liberal principal of that excellent institution for the education of scientific practical engineers—the Rev. Morgan Cowie—admission will be easily obtained.

We hear that, in the course of this month, the carriage will be covered, and ready for trial on the common roads; when we shall take occasion to forward you further information.

London, July 6. G. S. DE WITTE: HILLON DE GRANDCOUR.

THE COPPER TRADE—WHO IS TO BLAME?

SIR,—It being seldom that I make any communication on passing events, or encroach on your columns, I am inclined to hope that you will give space to this; and as the subject which I intend to advance is of the greatest importance to the foreign miner—in whose interest you invariably take an active part—I hope it will be received by the parties concerned in the spirit it is intended by me. The many able writers, who have, from time to time, attempted to expose and condemn, as it is pronounced, the "grinding monopoly"—the six or seven smelting companies of this neighbourhood—have, I conceive, caused many a deep thought to the miner—not only to those connected in the Cornish, but also in the foreign, mines. I believe that the proprietary of the Cornish mines (and you have often confirmed this opinion) do realise a more equitable and proportionate value for their ores at the ticketings than the miners who forward their ores to Swansea. The reason of this has never been properly explained; but from all the information I can gather—and, indeed, from personal experience—it is evident that the agents appointed by the miners as well as the smelters, are all practical men, who have been brought up from their infancy to the different processes of preparing, and who well know what quality of ores should be sampled separate from another—so as to ensure the full produce of each; and thus, I believe, a fair check is given in those respects to the smelters.

In Swansea, we have immense quantities of foreign ores imported, which range in produce from 75 down to 12 per cent. These ores vary considerably in properties and qualities: they consist of carbonates, oxides, malachites, sulphurets, pyrites, &c.; and, being of such immense value, the greatest care should be observed in their treatment, preparatory to being sampled, as also afterwards. They should be consigned to, and placed in the hands of, the most experienced men in England—so as to ensure a reasonable check on the smelters; otherwise, the miners have no business to complain of this "grinding monopoly." It is generally acknowledged, that the smelters are shrewd men of business; and seeing the almost innumerable communications from your correspondents—all of whom unite to condemn the system practised by those gentlemen—I think it becomes a question, whether the parties to whom the ores are consigned here by the London directors are not inexperienced men; and, then, whether or not the miners are encroached upon by the smelters by means of this inexperience. It is a well-known fact, that Mr. Michael Williams, one of the largest smelters, has never thought fit to select from his numerous friends in Cornwall

for a sampler of the ores at Swansea, other than an "Old Tributer;" and you know very well the reason, Mr. Editor; but allow me to say, that Mr. Williams knows better. The manner in which the foreign ore changes hands here—its being consigned to one party, and then to another—may be in itself good policy; but this change may be the result of cousinship; or, perhaps, the economical directors in London have thought fit to recommend to the shareholders that a saving in the commission could be effected in preparing the ores at this port. Let this be as it may; I think it is high time that the miner should see *for himself* how those changes take place, and that he does not pay—*and that dearly*—for the inexperience of those parties to whom he consigns his goods. I think I am in a position to prove that the miner subjects himself to an enormous—and, indeed, incalculable—sacrifice by the present parties' inexperience in preparing, and otherwise conducting, his samplings.

For my own part, if I were about sending ore here for sale, I should prefer forwarding it at once to the smelting companies' works, and trust entirely to their tender mercies; and I venture to say, that I should realise a higher price for my goods than by consigning them to the agents recently appointed. And why?—Because the smelters, seeing the miners, as at present, relying on the judgment and discretion of their agents, take every advantage of them; and I beg to ask, where is the man in business that would not act upon the same principle? I venture to advance, in conclusion, that, for a party who has never, till within these few months, seen a particle of ores, to be appointed as a proper and fit person to undertake the management of this rich article, is a piece of the greatest absurdity ever practised; and I beg here to remark, that the miner in so disposing of his ores is not entitled to the least sympathy from the public; nor, indeed, should his insinuating remarks, as regards the smelters, be allowed space in your columns.

Swansea, July 6. AN ADVENTURER IN A FOREIGN MINE.

BORING BY STEAM.

SIR,—Agreeably to Mr. Mather's request, I forward my claim, as stated in the specification of patent for boring, &c. First: "I claim the employment, for boring and sinking purposes, of concave bits, with cross-cutters attached to hollow shafts, and communicating interiorly and directly therewith, and worked by rope, chain, or other flexible substitute for rigid rods, as before described." And, second: "I claim the *combination* for boring and sinking purposes of concave bits aforesaid, with working machinery, of the kind hereinbefore described." I think it will be found, on comparing the two inventions, that they are essentially different; and the superiority of mine consists in its greater simplicity, and consequent freedom from liability to breakages—a very important point in boring to great depths; and, lastly, that, by my plan, I perform that by *one* operation, which, by Mr. Mather's, requires *two*—viz.: I bore the hole and remove the sludge, or *debris*, at one and the same time. W. G. GARD.

Goldsworthy Cottage, July 3.

P.S.—With regard to the apparatus which Mr. Mather claims as new, for removing the *debris* after his boring-head is withdrawn, I think many of your readers connected with mining in the west will at once recognise an instrument which has been for many years in use amongst them, and commonly known as a "*sludge gun.*"

INSTRUMENT FOR ASCERTAINING SPECIFIC GRAVITIES.

SIR,—A short time since, you published, in the Journal, a description of an instrument, invented by Mr. R. W. Fox, for ascertaining specific gravities. Considering, as I do, that this instrument is calculated to be of great practical utility, I think many of your readers, as well as myself, will be glad to learn whether it can yet be procured of any manufacturer of philosophical apparatus; and, if so, at what price? D. L. P.

IMPROVEMENTS IN ELECTRIC TELEGRAPHS.—M. P. A. J. Dujardin, of Lille, has obtained Royal letters patent for a variety of applications of the electro-magnetic fluid and electro-magnetism, as agents in the transmission of intelligence, and also for a method of printing off the communications thus made. The apparatus for writing or printing despatches, or messages, consists of a foundation plate, on which is mounted an ordinary clock movement, actuated, when required, by means of a weight. One of the wheels of this clock movement carries a long pin, which extends out horizontally, and enters the forked arm of the shaft of a roller, upon which a cylinder, covered with paper, to receive the impressions, is placed. This roller is mounted in horizontal bearings, one of the ends of its shaft being screwed, and made to rest upon a thin blade, fixed to one of the bearers—so that as the roller is made to rotate slowly, it is gradually moved laterally, so as always to present a fresh surface of paper to receive the pen. The pen is a lever, composed of iron wire, with silver, or platinum, wire at its marking end; from the fulcrum of the lever a tail-piece descends, carrying a magnet, which consists of a long bar, extending in front of the electro-magnet. The end of the pen, when quiescent, remains immersed in the inkholder, and is thus always supplied with ink, and ready for operation. The method of representing the several letters of the alphabet is by dots—1. 2. 3. 4. 5.; dots represent the five vowels, and the remaining letters by 1. 1., 1. 2., 1. 3., and all the changes on 1, 2, 3, 4, 5, the highest being 5. 2. This mode of signalising is very simple, may be quickly acquired, and can be printed off with extraordinary rapidity.

ON THE COMPLETE PURIFICATION OF GAS BY A SINGLE OPERATION.—M. Mallet says, that several objections had been made to the process for the purification of gas submitted by him to the Academy. It had been said that it required—first, new apparatus; and, secondly, greater pressure upon the retorts; but, as the additional pressure required for the apparatus does not exceed 2 in., and as the expense of setting up the washing apparatus is not very considerable, these objections are not really of any great weight. M. Mallet says, however, that he was thereby made aware of the improvements required; and the result was, that he introduced several important ameliorations in his method of purification. By the one now submitted to the academy, he said, that he was enabled to employ the lime purifying vats ordinarily employed in gas-works, perfect purification being, by this means, obtained—that is, the gas was so entirely freed from ammonia and hydrosulphuric acid, as not to act upon acetate of lead or litmus paper. The improvement consists in the simultaneous employment of a mixture of sulphate and oxide of lead, which are applied to the gratings of the purifiers instead of lime. On the gas being passed through, the following is the result:—On the ammoniacal salts coming in contact with the sulphate of lead, a double decomposition takes place; sulphate of ammonia, and carbonate, sulphuret, and cyanoferruret of lead, are formed; and the free hydrosulphuric and carbonic acids combine directly with the oxide of lead. When the gas begins to mark either acetate of lead or litmus paper, the purifier must be replenished in the same manner as when using lime. M. Mallet describes, in his memoir, a process by means of which he obtains and renews the mixture, and which possesses the advantage of furnishing an unchangeable purifying substance, provided the inevitable loss of matter be replenished with fresh sulphate of lead. One precaution must be taken to enable the sulphate and oxide of lead to retain their purifying properties as long as possible, which is, to deprive the gas entirely of tar on reaching the purifiers; this may be easily done by passing it over one or more layers of finely-divided substances, such as small coke, sawdust, &c.—*Comptes Rendus: Newton's Journal.*

SUBSTITUTE FOR WHITE LEAD, &c.—M. Leclaire exhibited to the Academy several specimens of painting, intended to show the advantages which colours with a zinc base possess over those whose base is lead or copper. The first, after being exposed to the action of sulphuretted hydrogen, preserved their lustre completely, while the others were all more or less altered. The dangers to which the workmen who prepare them are exposed, or those even who employ only white lead, caused the white of zinc to be thought of long ago as a substitute; but, besides the fact that there were no establishments in which this product was manufactured upon a large scale, and by an economical process, there remained another cause of unhealthiness in the necessity of employing oil prepared with litharge, as a drying oil, as well for the zinc as for the lead. M. Leclaire has got rid of this last cause of danger, by the discovery of a drying medium, whose base is manganese, the employment of which presents no inconvenience. In painting houses, white lead is not the only poisonous material which is used, several other colours of lead and copper base are still generally employed. M. Leclaire has succeeded in replacing them by colours with zinc as the base, the use of which has not, up to the present time, appeared to injure the health of the workmen.—*Comptes Rendus de l'Academie des Sciences.*

EXPORTATION OF THE PRECIOUS METALS.—The following are the official returns of the exports of gold and silver from the port of London for the last week:—Silver bars to Hamburgh, 38,000 ounces; ditto to Rotterdam, 52,200—Silver coin to Rotterdam, 140,000; ditto to Hamburgh, 25,000; ditto to Havre, 1000; ditto to Belgium, 34,864—Gold coin to Rotterdam, 1355; ditto to Hamburgh, 900; ditto to Havre, 45.

On the Winning and Working of Collieries.

BY MATTHIAS DUNN, MINING ENGINEER.

No. XI.—*Continued from the Mining Journal of the 1st July.*

Curb, or Solid Tubbing.—The labour in constructing, and the difficulty of ensuring tightness in the plank tubbing, led to the introduction of the solid wood tubbing, which possessed the advantage of requiring neither planks nor spikes, and, therefore, when once tight, and of sufficient strength, no incident could arise to produce leakage, whilst at the same time it presented a smooth circular surface for the general purposes of coal drawing. The foundation of the wedging curbs is prepared in the same manner as that above described; this is then succeeded by segments of wood, 6 or 8 in. square, of elm or oak, prepared in indefinite lengths, and retaining between each joint, whether horizontal or vertical, a lining of endways slit deal. These courses, so prepared, are built or walled upon each other, and carefully adjusted to the centre of the shaft by a hanging line. As the building proceeds upwards, the space between each curb and the rock is carefully packed with small coal, or other soft materials, so as to maintain the curbs steadily in their position. The building finished, it is surmounted by the ordinary stone wall before described, and the successive wedgings take place in the sheathing so long as any leakage appears—the wedges used for this purpose being clean fir, well seasoned, an iron chisel being used to perforate the wood, and the better to introduce the wedges. In case of faulty curbs giving way under severe wedging, they are cut out and replaced by sound ones. This tubbing is incomparably more safe and durable than the plank tubbing, especially in collieries where the water is corrosive. It frequently happens that a detached piece of tubbing requires to be inserted into a portion of the shaft apart from a walling, in which case the shaft is widened to the required length, and the top and bottom are squared and levelled for the reception of two respective wedging curbs. Again, it is often practised to widen the shaft underneath a certain tub, and, in due time, to join another portion of tub into that already completed; and, so firmly does the wedging curb and the side wedging sustain the whole fabric, that there is no danger of it giving way whilst the operation of undercutting is going on. The wedging completed, and the roughness adzed off, the shaft so constructed represents a perfect cylinder; and, it is not uncommon to see a tub of this description sustain a pressure of 50 fms., or 20 atmospheres. In Belgium the manner of stopping back water is worthy of record. The shaft is formed into 15 or 16 sides, by means of straight logs of timber, 20 in. long and 6 in. or 8 in. square: the ends are bevelled to each other, and the tub is completed by piling a succession of these logs upon each other to the surface—all the joints, as well as the space between the wood and the rock, being wedged with wood. When this tubbing is well executed, it will stop water for many fathoms, and the chalk, which generally forms the base, is well adapted from its closeness for the foundation.

Metal Tubbing.—No sooner was the above invention of wooden tubbing perfected, than a suggestion arose that segments of cast-iron might be substituted to still greater advantage, especially in the saving of time and labour in the adaptation. This was first attempted by adding one entire ring, the full size of the shaft, to another; but, although in some isolated cases this system was applied to the top of the shaft, as against gravel and quicksand, yet it could not possibly be practised in the interior of a sinking pit, containing pumps, brattice, &c. It was, therefore, resolved to adopt segments of cast-iron, varying in size and thickness according to the expected pressure—but, generally speaking, their length may be stated at 3 or 4 ft. by 2 ft. in height, and in thickness three-eighths of an inch to 1 in.; these segments were meant to present a smooth uninterrupted surface in the shaft, and they were fitted to each other by means of overlap flanges, of 3 or 4 in. at each end. Now, the space between these segments are filled up with thin sheathing deal, for the purpose of wedging, and the space between the tub and the rock was also filled up in the manner before described—each segment having a plug-hole left in the centre, for the purpose of passing air and water during the operation, to be plugged with wood at the finish. This is the sort of tubbing now universally used, and the only drawback which attends it, is the liability of being corroded by certain saline waters, especially in hot smoky shafts, where the metal in course of time, is found to carbonise to such a degree, that it may be cut with an ordinary pocket-knife. In such cases the tubbing is frequently known to give way, and, consequently, to be attended with serious consequences by the letting down of the waters. Before the invention of the steam-engine, it was in ancient times a serious consideration to endeavour to compass the winning of a coal-field near some brook or river, where the stream of water could be made available for turning a wheel, upon whose axis were fixed one or more pumping beams, reaching to the engine-shaft. This sort of machinery was introduced into the mining operations in England about the year 1680, and into Scotland about the year 1712. Several of these engines had wheels of 30 ft. in diameter. The beams, of course, of wood, strengthened with King posts. By this contrivance, the winnings of Heaton and Jesmand were accomplished. The water-wheels once in motion needed no attendance, so that, where applicable, and for moderate depths, it was invaluable. The sinking of Moreton West Pit, in the county of Durham, in 1806, will give a good practical illustration of the various obstacles met with, and the remedial measures adverted to, explained in the following measurement from the top to the bottom of the shaft (in yards):—

At 76—Bottom of wedging curb 4 ft. below the main coal, and two lengths of plank tubbing, each 12 ft. long, put in.
78—Wedging curb inserted of 8 in. thick, to stop back a feeder of water, amounting to 200 gallons per hour.
85—Ditto.
100—Top of tubbing curb upon curb, for the purpose of shutting off Maudlin seam.
105—Bottom of wedging curb of ditto, at which place a feeder of 200 gallons per hour was met with; also a blower of inflammable air, which was piped to the surface; when first raised, it fired at the furnace, blasted and blew out the whole of the brattice, and kept burning and blasting for five hours.
107—Wedging curb, which stopped back a feeder of 1000 gallons per hour, with a good deal of inflammable air.
115—Wedging plank ends, 200 gallons per hour stopped.
117—Bottom of low main seam tubbed off.
144—Bottom of Hutton seam.

Note.—At this period metal tubbing had not come into use in the county of Durham.

Pumping Process.—Hitherto we have presupposed that the water met with was manageable with a horse-gin; and now that the first tubbing is taken to be completed, as well as the walling to the top of the shaft, the sinking is resumed the neat size of the intended shaft, which is gradually enlarged for receiving successive portions of additional tubbing according to circumstances—it being the intention that, until within a reasonable distance of the coal, the waters should be so disposed of, that at the commencement of coal work, the shaft shall be comparatively dry, although, during the processes above described, as much water has been stopped back as would have overpowered very large engines. For instance, at the sinking of Dawdon Colliery, in the county of Durham, 1842, whilst passing through the quicksand at the depth of 73 fms., there were employed 18 columns of pumps, of 19½ in. diameter each, and 9 columns of pumps, of 16 in. diameter each. To work these pumps there were employed—three engines of 350-horse power, 1050; two engines of 130-horse power, 260 = 1310-horse power. The estimated effect of these engines and the above apparatus upon the sand and water, was calculated at 10,000 gallons per minute, raised 73 fms. And yet, by the completion of the metal tubbing, which varied from ⅜ of an inch to 1¼ in. in thickness, the waters were completely stopped; and the shaft, 14 ft. in diameter and 248 fms. deep, when finished to the coal, was completely dry. The steam-engine and pumping apparatus, then being indispensable to the winning of a deep colliery, it may be well to advert to the varieties of application which prevail in different districts, and which show the progress of science and experience. When the waters to be met with are expected to be moderate, and only require partial pumping, it is a usual recourse to increase the power of the intended winding engine, or to introduce teeth wheels to reduce its speed, and so enable the pumping apparatus to be attached to some of its working parts, either by an additional beam or by movements supported by framing, and extending from the engine to the pit shaft, there to be connected to a quadrant, one portion of which works the pump-rods, whilst another carries a balance-weight. This is a very general practice throughout Lancashire and Staffordshire, where the waters are light, and where it is customary for the engine to work a rope in two or more shafts; and being placed 80 or 100 yards distant from each, is consequently too remote from the pumping-pit to reach it by any other means. When temporary measures are resorted to in the deep collieries in the counties of Durham and Northumberland, they are generally managed by placing the engine within a beam's length of the shaft, and obtaining a movement, either by lengthening the engine beam over the cylinder, or by attaching the pumping beam to some other movement of the engine, the beam being applied to the turning of the fly-wheel axle and rope roll, and the beam being applied to the pumping in the pit. In order to obviate the inconvenience incidental to an engine required to draw both water and stones during the sinking, I had a working barrel extending from above to beneath the bucket, fitted up with a side pipe, and regulating stop-cock. Before the adoption of this application (which answered the most sanguine expectation), the speed of the engine in drawing the mine debris would have kept the pump continually working upon air, and have necessarily produced great violence upon the machinery; whereas a certain part of the said column of water was let back by a discretional use of the cock, from above the bucket to the space between the bucket and clack, so as both to regulate the draft of water from the bottom of the pit, and at the same time to keep the pumps steadily balanced: it was also singularly useful in rinsing out gags of wood, or oakum, from the clacks; whereas, if some such expedient had not been adopted, the pumps would frequently have required to be drawn to the surface, at great expense and annoyance. I may here observe that, generally speaking, it is bad policy to endeavour to produce a two-fold purpose from a single engine, inasmuch as the speed and requirements of the water and mine debris are so discordant, that it is productive of indescribable inconvenience. At the same time, it frequently succeeds at depths where a horse gin can be applied to the drawing of the debris, inasmuch as the shaft once completed, the copious standage provided, the water can be drawn at opportunities when the engine is otherwise unemployed.

However feasible it may be to apply partial pumping apparatus for the winning of minor collieries, as before noticed, yet it is necessary to contemplate a much more formidable application of engine power, for the commanding of a heavy pumping apparatus, and a deep mine; therefore, I will assume the propriety of adopting a regular pumping engine with beam overhanging the shaft, and will proceed to describe the various appendages shown by experience to be useful and advantageous in so critical an operation. [*To be continued in next week's Mining Journal.*]

The Metallurgical Treatment of Ores.

By JOHN MITCHELL, Esq., M.C.S., author of *A Manual of Practical Assaying, &c. &c.*

No. XXIII.—[*Continued from July* 1.]

The most simple apparatus, however, in use for the separation of crude antimony from its matrix is that employed in La Vendée; in this there is neither tubes nor pots: it consists of a reverberatory furnace of a circular form, in which is a concave sole, covered with a lining of clay and pounded charcoal; the ore is placed on this bed, and, when it appears sufficiently fused, a hole is pierced in the lining, and the crude metal passes into basins outside the furnace, analogous to those attached to the reverberatory furnaces employed in tin-works, and which have already been described. From 7 to 8 cwts. of ore were successfully treated in this form of furnace, and each tapping gave 4 cwts. of sulphuret of antimony, each charge consuming about 25 cubic feet of wood. We have no doubt that, if the companies at present employed in working antimonial ores would use some modification of the furnace just described, they might effect a very economical separation of the crude metal from the ore; a reverberatory furnace of the ordinary kind, but the bed slightly inclined towards the flue end, would be found very advantageous, for then the operation might be made continuous, and no fuel unnecessarily consumed; the ore would be placed at the bridge end of the sole; and, as the melted sulphuret sweated out, and run from the aperture at the flue end, the worked and exhausted ore could be removed by a proper aperture, and fresh introduced. From this hint we leave our readers who may be interested in the matter, to carry it out in a more extended form, and we feel convinced that their labours will have a successful termination.

Roasting the Sulphuret of Antimony.—The crude sulphuret of antimony thus obtained is not generally at once submitted to the process of reduction; in order to obtain its metal, the usual method is to submit it to a preliminary roasting, so as to convert it into oxide. This roasting is not difficult of execution in a reverberatory furnace, provided care be taken to sufficiently moderate the temperature, so that the sulphuret may not fuse (which very easily happens); if it does, the perfect roasting is very difficult to accomplish. The furnaces generally employed in this operation are similar to those in use for the calcination of potashes; they have two lateral fire-places, throwing the flame produced on a bed in the centre. From 2 to 3 cwts. of sulphuret are treated at one time; it ought to be reduced to a fine powder, and sifted. A good fire is made, and the furnace is rendered tolerably hot, but not carried to redness, and the sulphuret introduced; and as soon as it becomes white on the surface, and throws off a little smoke, the fire is moderated, and it is continually stirred, raking it from one side of the furnace to the other. It is not at all necessary, and, in fact, is useless to carry it to a red heat. At the end of 12 or 15 hours the ore ceases to smoke; it is then finished, raked out, and a new operation commenced. During the whole operation, sulphurous acid is disengaged, and oxide of antimony results; arsenious acid is also generally disengaged—this circumstance renders a very good ventilation essentially necessary, in order to preserve the health of the workmen. As the sulphuret of antimony is tolerably pure, 100 parts ought to produce about 86 parts of oxide of antimony; in practice, however, but 60 to 65 parts are obtained, on account of a considerable portion being volatilised. A very careful operation, in which the heat is kept as low as possible, will furnish about 76 parts; it would be as well to attach to these furnaces a condensing chamber, so that the volatilised oxide might be reclaimed.

Reduction of the Metal.—In reducing the product of roasting, crucibles are generally employed, 65 parts of roasted sulphuret are mixed with from 8 to 10 parts of charcoal, in fine powder—the charcoal being moistened with a very strong solution of carbonate of soda. The mixture is carried to a good red-heat, and kept at that temperature till the whole is in a perfect state of fusion. The crucibles are placed in gallery furnaces, which generally contain from 6 to 12, according to the magnitude of the works. When the fusion is terminated, the result is regulus of antimony, and a slag, composed of the double sulphuret of antimony and sodium. The object of the carbonate of soda is to reduce a portion of the unacted-on sulphuret of antimony (which is sure to remain in the roasted ore) forming sulphuret of sodium, which combines with the remainder of the sulphuret of antimony, and forms the slag. The metal is run into heated and greased iron ingot-moulds. The product thus obtained is not pure, and, on solidifying, does not assume that strongly characteristic crystalline form which the commercial antimony always possesses. To purify it, it must be fused with a portion of the slag of a preceding operation, and a small quantity of roasted ore. A new slag is thus produced, and the antimony is purified. The first slag is, as already stated, a sulphuret of antimony and sodium; but the second is little more than sulphuret of antimony. The object, in this operation, is to oxidise all those metals contained in the rough regulus, which are more readily oxidised than antimony, such as iron and sodium—the former proceeding from the ore, the latter from the carbonate of soda added. Sixty-five parts of roasted sulphuret give 45 parts of crude regulus, which, by the second fusion, furnishes 42 parts of pure metal.

Instead of the mixture of carbonate of soda and charcoal, argol, or red tartar, is employed at some works, in which case two parts of roasted sulphuret are mixed with one part of tartar. This operation, however, requires more care, as the matter is apt to swell up very much, and run over the sides of the pots. In both cases, the slag produced is known under the name of crocus of antimony, and employed as a veterinary medicament.

The earlier metallurgists found that sulphuret of antimony was decomposed by iron, and from this property resulted a direct process for reducing the sulphuret without a preparatory roasting; but the antimony thus produced always containing a large quantity of iron, it is rendered of so bad a quality as to be unfit to form the alloy used in the manufacture of type.

During the year 1788, this kind of reduction was attempted at Glendinning, in Dumfries, but it was not successful. Sulphuret of antimony, in its decomposition by iron, yields protosulphuret of iron and metallic antimony. The proportions employed are of great interest—for if too large a quantity of iron be employed, the antimony produced always contains a notable proportion; and if too small a quantity, the whole of the antimony is not reduced. Three equivalents of iron must be employed for every two equivalents of sulphuret of antimony, or 45 of iron to 100 of sulphuret. It is possible, however, that with care, this process might be made to succeed; if the antimony produced was fused with a silicate of antimony, the iron would possibly be converted into silicate, if the protoxide and purified antimony remain; or it might be fused with a portion of roasted sulphuret, and the iron would be again removed. M. Berthier has studied, with great care, the action of iron on the sulphuret of antimony, and has arrived at the following results:—When sulphuret of antimony is fused with iron alone, a very considerable heat is requisite to fuse the sulphuret of iron; this occasions a great loss of antimony, and may be

modified advantageously as follows:—When carbonate of soda, sulphuret of antimony, and charcoal are fused together, a button of antimony, a double sulphuret of antimony and sodium, and carbonic oxide are obtained, the latter passes off in the state of gas. If iron be added, the sulphuret of antimony contained in the slag is decomposed, and a new slag, containing a double sulphuret of iron and sodium, is formed, and all the antimony is reduced; in each case the slag is very fluid and fusible, and all the antimony is reduced. In case carbonate of potash is employed, the slag is more fusible than with carbonate of soda. The following are the results of some experiments:—

Sulphuret of antimony	100	100	100	100
Dry carbonate of soda	50	10	100	..sulph. soda 10
Iron	42	42	25	42
Charcoal	5	1	10	2
Antimony obtained	55	62	65	61

In this method there is only one fusion; it is very rapid; no swelling up of the materials; the slag is very liquid, and separates readily from the metallic antimony. In case carbonate of soda is employed, the second series of properties is evidently the most economical; but the fourth is preferable, on account of the cheapness of the sulphate of soda employed. It has been proposed by Lampadius to effect the reduction of antimony on a small ore hearth, but we do not know whether it was successful. [In our next week's Journal we shall commence the treatment of the ores of cobalt.]

IMPROVEMENTS IN THE MANUFACTURE OF COPPER.

[Specification of patent granted to Charles Low, of Roseberry-place, Dalston, in the county of Middlesex, for improvements in the manufacture of zinc, copper, tin, and other metals.*]—*Newton's Journal.*

This invention consists in the employment of a combination of oxide of manganese, plumbago, nitrate of potash, soda, or lime, and carbon, in the manufacture of copper. The patentee states, that if a compound of the above materials be introduced into the furnace wherein the ore is melted, after it has been calcined, the time required to manufacture copper from the ore is reduced, the slag produced contains less copper, and a saving of fuel is effected. The mode of carrying out the invention is as follows:—A mixture is made of 42 parts of the black oxide of manganese, 8 parts of plumbago, 2 parts of nitrate of potash (or nitrate of soda or lime), and 14 parts of carbon (anthracite coal or wood charcoal being preferred); then, on the ores being first melted, and when the charge in the furnace is completely melted, 25 lbs. of the mixture are added for every ton of ore, and the whole is well worked or rabbled. By this means the process will be expedited (the mixture acting as a flux), and the slag will contain less copper than usual. After the slag has been skimmed off, 25 lbs. more of the mixture are to be introduced, and the mass well rabbled; then the slag is to be again skimmed off, and a further quantity of the mixture added; and so on, until the workman judges that the metal is in a sufficiently forward state, when he runs off the charge, and afterwards operates upon it in the ordinary manner. In some cases the mixture may also be employed in the second melting process—*i. e.*: the melting of the coarse metal; or the first introduction of the mixture may not take place until the second, or subsequent melting processes.

Although the patentee has stated the proportions in which he prefers to use the four ingredients above mentioned, he does not confine himself to these proportions, so long as a combination thereof be employed in a furnace with melted products in the manufacture of copper. He claims, as his invention, the combined use of oxide of manganese, plumbago, nitrate of potash, soda, or lime, and carbon, in the manufacture of copper.

* By a disclaimer, dated 3d May, 1848, the patentee has erased the words "zinc, tin, and other metals," from the title of his patent, which now stands, "for improvements in the manufacture of copper."

METHOD OF WELDING IRON, STEEL, AND SHEET-IRON.—In an earthen vessel melt borax, and add to it 1-10th of sal-ammoniac. When these ingredients are properly fused and mixed, pour them out upon an iron plate, and let them cool. There is thus obtained a glassy matter, to which is to be added an equal quantity of quicklime. The iron and steel which are to be soldered, are first heated to redness; then this compound, first reduced to powder, is laid upon them—the composition melts and runs like sealing-wax; the pieces are then replaced in the fire, taking care to heat them at a temperature far below that usually employed in welding: they are then withdrawn and hammered, and the surfaces will be found to be thus perfectly united. The author asserts that this process, which may be applied to welding sheet-iron tubes, never fails.—*Rec. de la Soc. Polytech.*

NEW LOCOMOTIVE ENGINE.—We have had an opportunity of inspecting a locomotive engine manufactured by Messrs. Rayne and Burn, to the order of John Fowler, Esq., C.E., for the Manchester, Sheffield, and Lincolnshire Railway; and which had been examined by him and other gentlemen, and met their unqualified approval. It is a first-class engine, weighing about 18 tons, and the tubes in the boiler amount to the unusual number of 180, the ordinary number of pipes being only from 110 to 120. It is calculated for a speed of 60 miles an hour. The following are its dimensions, which may be interesting to practical men:—Boiler shell, 10 feet long, by 3 feet 8 inches diameter; copper fire box, 4 feet 5 inches high, 3 feet 7½ inches long, and 3 feet 4 inches broad; tubes of brass 180 in number, 10 feet long, and 1¾ inch external diameter; cylinders 16 inch bore, and 22 inch stroke; framing outside, 4 wheels coupled 5 feet diameter; 2 leading wheels 3 feet 6 inches diameter; spring mounted throughout; tender attached, 6 wheels, 3½ feet diameter; tank holds 1000 gallons of water.—*Newcastle Advertiser.*

THE PARALLELOPIPED STEAM-ENGINE.—An important improvement has recently been effected on the steam-engine by John M'Dowall, Esq., of the Walkinshaw Foundry, Johnston—another gem to emblazon the crown of this ingenious engineer. Mr. M'Dowall, it is very well known, has produced a very great variety of inventions for the improvement of machinery, and, amongst others, that of the piston, which has long since been spread over the world, and cannot be seen without being associated with his name. We have just been seeing this last, but curious invention: it is a small engine, designated the "Parallelopiped," simply and compactly got up, and, to all appearance, like a steam-chest—the whole of the work being wrought in the inside, nothing without being in motion except the governor and a shaft which proceeds from one of the sides of the chest, to be connected to whatever gearing it may be employed to drive. A stranger would take it to be an iron box, so little does it resemble the common form of the engine. The advantages the "Parallelopiped" possesses over the ordinary construction of the high pressure steam-engine, are enumerated as these:—First, it may be purchased at the half cost; second, it occupies only one-fifth of the space, and is less than one-fourth in weight; third, its portability, or the ease with which it may be carried about from place to place. This curious little engine has a sweet motion, and, when at work, will scarcely be heard going, having little or no friction; it is less liable than others to get out of repair, and can, we are informed, be made to any power. It is admirably adapted for agricultural ends, and is specially recommended for screw propellers, sawing machinery, pumping water, and hauling coals, or for any other purpose where high pressure steam is used. An engine of this description, and of 6-horse power, could almost be borne about on a man's back, and is, perhaps, as splendid a piece of ingenuity as has been achieved since the days of Watt.—*Glasgow Saturday Post.*

CIRCULAR SAWING.—An experiment was, by permission of the Lords Commissioners of the Admiralty, made at the saw-mills, Woolwich Dockyard, on Saturday last, by Mr. James White, C.E., with the view of testing the efficiency of circular saws in cutting through the centre of rough timber of a diameter nearly equal to that of the saw itself. An elm tree, one end of which was of the full diameter of the saw, was placed upon one of the circular sawing machines, having a saw 4 feet diameter, and a self-feeding motion, in the usual way. By this motion the tree was brought towards the saw, and passed over it; and, by a reverse motion, it was run back. The cut made in the tree, passing over the saw, was in dead wood all the way, and fully 20 inches deep. After the tree was run back, it was turned over, and adjusted for a second cut to line with the first, and in this position it was brought forward as before, and completely divided in two. The object of this experiment was to ascertain whether rough timber of a large size can be cut up in this way, and the result was quite conclusive in that respect. Lord Willoughby de Eresby was present, and took much interest in the experiment. It is now his lordship's intention to adopt circular sawing for cutting up the timber upon his estate, either in the way described, or by placing (as suggested by his lordship), one saw above the other, and dividing the tree at one cut, to avoid the trouble of turning the tree over. —*Mechanics' Magazine.*

ARTESIAN WELL AT VENICE.—In an Artesian well, sunk at Venice, for the purpose of supplying the city with fresh-water, four beds of turf were traversed, at the respective depths of 97, 157·5, 279, and 412 feet. They show that, at four different epochs, the soil, which was gradually sinking, was covered to a slight depth by fresh-water. Water was met with at the depths of 16, 131, 174, and 197 feet. This latter water, which rises about 10 feet above the level of the lagunes, appears to have its origin in the marshy plains, which surround them; an origin which appears to be confirmed by the carburetted and sulphuretted hydrogen gases which escape from the water, and the large quantity of azotised matter which it contains—not sufficient, however, to render it unhealthy, or unfit for use.

THAMES TUNNEL COMPANY.

The number of passengers who passed through the Tunnel in the week ending July 1, was 18,193; amount of money, £63 6s. 1d.

Proceedings of Public Companies.

MEETINGS DURING THE ENSUING WEEK.

MONDAY.....London Joint-Stock Bank—offices, at Twelve.
East and West India Docks—offices, at Two.
Parcels Delivery Company—offices, at One.
TUESDAY.....St. Katharine Docks Company—offices, at One.
Colonial Bank—London Tavern, at Twelve for One.
Birmingham and Oxford Junction Railway—King's Arms, Westminster, at half-past Ten.
Catholic Law and General Assurance Company—offices, at One.
Galvanised Iron Company—London Tavern, at One.
Patent Fuel Company—offices, at Eleven.
WEDNESDAY...Royal Santiago Mining Company—offices, at One.
Union Bank of London—offices, at Twelve.
Royal Farmers' Insurance Company—Freemasons' Tavern, at Twelve.
Metropolitan Life Assurance Company—offices, at Two.
THURSDAY....Wheal Curtis Mining Company—Guildhall Coffee-house, at Twelve.
Belgian Eastern Junction Railway—Brussels, at One.
City of Toronto and Lake Huron Railway—offices, at Twelve.

[*The meetings of Mining Companies are inserted among the Mining Intelligence.*]

LONDON DOCKS COMPANY.

The half-yearly general meeting of proprietors was held on Tuesday last, New Bank-buildings, for the purpose of receiving the report of the directors, and of considering a dividend, &c.—JOHN CATTLEY, Esq., in the chair.

The SECRETARY (Mr. J. D. Powles) read the report for the six months ending the 31st May, which is as follows:—"The number of loaded ships from foreign ports which entered the London Docks during the six months, ending 31st May last, was 554, measuring 154,693 tons; the number for the corresponding period in 1847, was 548, measuring 150,570 tons; being an increase of 4123 tons. The amount of earnings during the six months, ending the 31st May last, has been 197,701*l.* 2s. 3d; the amount of the like earnings for the corresponding period in 1847, was 198,626*l.* 11s. 5d. The amount of expenditure during the six months, ending 31st May last, has been 107,518*l.* 11s. 7d.; the amount of the like expenditure for the corresponding period in May, 1847, was 108,114*l.* 3s. 8d. The amount of expenditure includes the income-tax. By the statement annexed to this report, it will be seen that the balance standing at the credit of profit and loss is 224,463*l.* 8s. 11d., out of which the directors recommend to the court of proprietors the payment of a dividend of 2*l.* 10s. per cent. on the company's stock for the half-year, amounting to 90,957*l.* 12s. 6d. —leaving a balance in favour of the company, of 133,505*l.* 16s. 5d. Of the balance standing at the credit of profit and loss, the sum of 197,053*l.* 6s. 2d., consists of the amount of outstanding charges due to the company on goods in the warehouses. The stock of goods in the warehouses on the 31st May last, was 111,524 tons; at the same period last year it was 103,106 tons. Nothing has been undertaken in the way of new works during the past half-year, excepting that, in consequence of the necessity of providing further accommodation for the reception of the article of wool, the directors have been obliged to enlarge the wool floor, by raising it two additional stories, which are now completed. The directors have only to add, in conclusion, that they have every reason to be satisfied with the support which this establishment receives from the mercantile community, and they trust that it will long continue to deserve the confidence of that body."

The dividend was agreed to, and after the usual vote of thanks, the meeting separated.

PROVINCIAL BANK OF IRELAND.

A special meeting of proprietors was held on Thursday, at the Bank, in Old Broad-street, J. P. MUSPRAT, Esq., in the chair,

For the purpose of electing a director, in the place of Mr. Thomas Masterman, resigned. Mr. Elliot Macnaughten was elected a director, to fill the vacancy.

The CHAIRMAN alluded to the favourable reports of the crops in Ireland, which he had no doubt would have its good effect on the bank.—After a vote of thanks to the chairman, the meeting separated.

LONDON AND GREENWICH RAILWAY.

The half-yearly meeting of this company was held on Tuesday last, at the offices in Coleman-street.—W. SHADBOLT, Esq., in the chair.—The report stated that, in consequence of a vacancy having occurred in the direction by the retirement of Mr. Hughes Hughes, the directors, in accordance with the powers given them by the act, elected in his place Mr. J. T. Maubert as their co-director, subject to the approval of the shareholders. The revenue for the half-year, ending the 30th of June, amounted to 19,721*l.*, which, after paying 11,400*l.* interest on the preference shares, the income-tax, and the current expenses, left a balance of 7744*l.* towards the payment of a dividend upon the 43,077 original shares.—After a short conversation resolutions were passed, adopting the report and accounts, electing Mr. Maubert a director, approving of the dividend of 3s. 9d. per share clear of income-tax on the original shares, and authorising 333*l.* to be taken from the rest or surplus, and added to the balance, to make up the requisite amount for the dividend. Thanks were passed to the chairman and directors, after which the meeting separated.

LIVERPOOL, MANCHESTER, AND NEWCASTLE RAILWAY.

An extraordinary meeting of shareholders was held on Thursday last, by adjournment, at the London Tavern.—T. R. WILSON FRANCE, Esq., in the chair.

The CHAIRMAN was happy to say, that the dissolution bill had passed the House of Commons, and was then in the House of Lords, where it was fixed for a second reading that evening. The bill had passed without any alteration.

Mr. FISHER wished to know, whether the petition which he had sent to the board against the dissolution of the company had been laid before the committee of the Commons?—The CHAIRMAN was not able to answer the question.

Mr. BURCHELL, a director, said that of course all the petitions presented to the House had been laid before the committee.

Mr. PAISON moved the following resolution:—"That this meeting learns with great satisfaction that the bill for the dissolution of the company has passed the House of Commons, and they trust that it will speedily obtain the sanction of the other branches of the Legislature."—Mr. TURNER seconded the resolution.

Mr. NEWTON said he was glad that there was one nobleman in the House of Lords, the Marquis of Londonderry, who was determined to expose the conduct of the directors.

The CHAIRMAN said, the directors at first opposed the bill, but they at length bowed to the opinion of the majority of the shareholders, and to the decision of the House of Commons. Upwards of 40,000 shares were in favour of dissolution, and only about 10,000 were opposed to it. Since June the majority for dissolution had increased.

Mr. FISHER proposed the following amendment, which was seconded by Mr. NEWTON:—"That this meeting learns with regret that the House of Commons have passed the bill for the dissolution of the company, and trusts that the House of Lords will throw it out, that the company may await the events of the next two years, during which period they are not compelled to proceed with the line."

The amendment was lost, the numbers being 16 to 2. The original motion was then carried, and the meeting adjourned until that day fortnight.

The adjourned half-yearly meeting then took place.

The CHAIRMAN observed, that the accounts were passed at the last meeting, and the only remaining business was to appoint an auditor.

Mr. FISHER proposed that Mr. Swallow, the present auditor, should continue to fill the office.—Mr. NEWTON seconded the motion, which was carried unanimously.—The meeting was then dissolved.

THE PROGRESS OF THE RAILWAY SYSTEM.—On Saturday, we availed ourselves of an opportunity of witnessing the working of a monster narrow-guage engine, up the incline from Euston square to Tring. The engine is an outside cylinder one, with eight wheels, and is of the long-boiler construction. The driving-wheel is 7 ft. in diameter, and the cylinder 18 in. We did not obtain the amount of heating surface; but, judging from an outside view, we have no doubt that the amount is large. The weight of the engine appears to be between 30 and 33 tons, road-worthy, and the tender, including coke and water, to be between 19 and 20 tons—say, together, 50 tons. The engine differs from Stephenson's ordinary long-boiler engines merely in the addition of a pair of wheels behind the fire-box. This gives a considerable degree of steadiness to the engine. Hitherto, the long-boiler engines made after Stephenson's patent, as well as most other outside cylinder engines, have oscillated fearfully at moderately high speeds; not, we believe, because they have been constructed on the outside cylinder principle, but chiefly from the overhanging weight at either end. That outside cylinder engines do not necessarily oscillate at such speeds will be gathered from the fact, that we have inspected the brasses of the leading and driving-wheels of such an engine, after she has run upwards of 25,000 miles, and have found them worn less than 1-20th of an inch. A passenger engine, weighing upwards of 30 tons, ought to perform a great deal to justify a locomotive engineer running it at high speeds upon a railroad with transverse bearings, or, indeed, upon any railway, however laid. Such an engine as the one in question will probably, from her steadier running, do less injury to the road than an oscillating one of 24 tons; but the steadiest running of a 30-ton engine, with such a weight on her driving-wheel as she ought to have, will produce a very disagreeable effect on the permanent way account for a period of ten years. The danger of running such engines at high speeds over a road with suspended bearings is very great, and, unless high speeds are to be attained, such an engine is worse than useless. The "monster" left Euston-square with the 4 o'clock train, with a brisk wind against her. The train consisted of 18 carriages, weighing about 85 tons. The maximum speed on a level was 45 miles per hour. She will do more than this; but we are of opinion she will never perform anything to warrant Mr. M'Connell (the locomotive superintendent of the London and North-Western line), or the directors, placing so heavy a locomotive upon a railway with cross-bearings. Besides, we are satisfied that the "monster" will not do more or better work than many much lighter engines at present employed on the London and North-Western Railway. We mentioned, some months since, that Mr. M'Connell was building a very large passenger-engine at Wolverton, with an overhanging fire-box, and outside cylinders, 9 feet wide between the extremities. This ill-judged, and, as we think, ill-contrived "monster" is dragging its slow length along; but there is good reason to believe that it will never be finished. It possesses all the worst features of outside-cylinder engines, and presents a sad spectacle of theory and practice run mad. We hear that a narrow-guage engine, even heavier than the "monster" alluded to, is about to be put upon the London and North-Western Railway. The shareholders would do well to inquire into, not only what is the commercial advantage, but what the haulage superiority of these narrow-guage "monsters." It is time that railway shareholders began to think of *bonâ fide* dividends, as well as public accommodation.—*Herald.*

FLOATING TUNNEL ACROSS THE CHANNEL.—One of the most extraordinary plans submitted for approval to the French Academy of Sciences, is that of M. Ferdinand, engineer, who proposes to construct a floating tunnel from Calais to Dover, for the wires of the electric telegraph, and large enough to be traversed by small locomotives, for the conveyance of passengers. The plan was referred to one of the members of the Academy for examination.

REMOVAL OF GOODS BY RAILWAY.—Application having been made to the Board of Customs, praying that the regulations of their general minutes of October, 1832, and March, 1835, by which the collectors and comptrollers of the customs at the several ports of the kingdom are authorised to dispense with the duty on the increase in weights of coffee, cocoa, and tea, removed coastwise—that is, waterborne by vessels round the coast to the port of destination, under the provisions of the Warehousing Act—provided the quantity should be small, and there should be no reason to suspect fraud, or to apprehend mistake, may be extended to such goods when removed under bond from one bonding port of the kingdom to another by railway. Orders have been issued for the regulations of the minutes above referred to, as regards coffee, cocoa, and tea, to be extended to the like articles when removed by railway under bond, and notice of this order has been given to the principal officers of the departments at the various ports throughout the kingdom, for their information and future government in the matter. As the removal of merchandise of all descriptions, by railway, under bond, is now carried on to a considerable extent, especially from ports on the coast in immediate and direct communication with foreign and distant countries, to the metropolis, in lieu of forwarding them by vessels round the coast, this extension of privilege to such articles, so removed, will be of considerable importance.

CALEDONIAN RAILWAY—THE MAILS.—The opening of this great railway line, as all our mercantile men are well aware, has vastly increased the facilities for our communication with England. But they complain, and with good reason, that advantage has not been taken of this railway to afford those early postal communications which the public has a right to expect. For instance, the Caledonian Company runs two trains daily from Glasgow and Edinburgh to London, which perform the journey in twelve hours and a few minutes; and there are corresponding trains from the metropolis which go over the ground with equal rapidity. Yet, with a perversity for which we cannot well account, the Post-office, instead of employing the 12 hours train, makes use of one which takes 17 hours to perform the journey between Glasgow and London. It may be given as a reason, that the latter waits at a greater number of stations than the former, and thus affords facilities for receiving mail bags from the country towns along the line of route; but the Post-office authorities know full well that the bags can be received and carried by the express train as well as by the slow one. On many of the English lines, the Post-office van is provided with a net, which, on passing a station, is extended upon an iron rod; the rod touches a pole to which is attached the mail bag, and even when the train is at full speed the bag is deposited in the net, and drawn into the van with the greatest ease and regularity. Would it be asking too much of the Postmaster-General to extend these advantages to Scotland? Private enterprise beats the Post-office entirely. We receive the London morning papers by express parcel, about 10 o'clock on the evening of the day on which they are published; but the mail does not bring in these papers till half-past one; and, did we depend on the courtesy, attention, and speed of the post, these journals would not be placed in our hands before eight o'clock on the following morning, which is just 10 hours later than we supply ourselves by a private opportunity. Of course, we have to pay for these parcels; but we cannot regard these payments other than as taxes imposed upon us by Post-office laziness. While on this subject, we bear our willing testimony to the regularity and admirable management of this line. Standing on the platform of St. Rollox the other evening, the manager said—"In two minutes you will see the express train approaching." The gentleman was as good as his word, for before 60 seconds expired the London train hove in sight, after performing a journey of 400 miles. We are also glad to say, that from Mr. Stewart, the active manager, downwards, the attention and courtesy of the officers of the company are all that could be desired. The temporary station of itself is abominable, but one is reconciled to the place, by the kindly demeanour of those about it.—*Glasgow Herald.*

GREAT LUXEMBOURG RAILWAY.—The following is a brief sketch of the present state of this line, from a personal inspection. At the Place de Luxembourg, the site of the proposed Brussels station, the ground is ready for building on, and traces are made for some new streets, which, when finished, will add greatly to this fashionable and handsome suburb. From the Place de Luxembourg the direction is pointed out which the short junction line will take, in order to place the Brussels terminus of the Great Luxembourg line in immediate communication with the Belgian State line (the Northern), terminating at the station outside the Porte de Cologne, and at the one near the Allée Verte. This short line (about an English mile) will place the Luxembourg line in unbroken communication with the lines from Ostend, Burges, Ghent, Antwerp, and the north of France, and, in fact, with all those meeting at Malines. Proceeding down the line, in the direction of the village of Ixelles, the first tunnel is reached under the road from Brussels to Wavre. Here a number of men are at work making the necessary excavations, and at the other side another body are removing a large mass of earth; and, judging from the activity with which the works are carried on, it will soon be completed. Further down the line, in the immediate vicinity of the village, is a long and strongly built viaduct, on which the masons are still engaged; near the village of Etterbeck is a remarkably long open cutting, quite ready for the rails; and a little further on a vast number of men are at work intersecting a mass of earth near the road between Watermael, Boisfort, and Ixelles. Advancing, several small viaducts are completely finished, and many tracts are quite ready for laying down the rails. In the vicinity of a hamlet between Boonendael and Watermael, two public roads are about being turned into one, in order to avoid building two viaducts. Leaving the hamlet in question, some heights are reached, on each side of which cuttings are being made, which will require somewhat more than a month to finish. Further on the line, as far as the Waterloo station, the road is quite ready for the rails. Near the village of Boisfort there is a well-built viaduct and aquaduct; then comes a long tract of earthwork which is ready for the rails, and from thence to Groendael it is expected the various sections will be ready for laying down the rails by the end of this month. The so-called Waterloo station is nearer Brussels than that of La Hulpe, and is considered one of the most important on the line, as it is expected that tens of thousands of persons will annually visit the field of the celebrated battle. Judging from appearances, the whole of the line from Brussels to La Hulpe, where the line at present terminates, will be ready for laying down the rails in August next.

GREAT NORTHERN RAILWAY.—The works on this line, between the proposed terminus at King's-cross and Copenhagen-fields, and between Barnet and Finchley, were resumed on Tuesday last, having been discontinued during the monetary panic of 1847. A considerable portion of the works between Peterborough and London is executed—the heavy parts, that if altogether suspended would have materially retarded the opening of the through line, having been carried on. The line from Gainsborough by Lincoln, Boston, and Peterborough, together with the East Lincolnshire line from Boston to Grimsby, and between Doncaster and the West Riding of Yorkshire, are nearly complete, and are expected to open for public traffic during the present month. A great many of the poor navvies (1200 in number), who were so suddenly thrown out by the water breaking into the excavations for the Sunderland Docks, are now finding employment on this line.

IRISH GREAT SOUTHERN AND WESTERN RAILWAY.—The company are about to establish depôts of coal along the line for sale at a moderate rate. This is likely to prove a good speculation, as well as service to the public, as a great portion of the country, especially at the southern end, is destitute of fuel.

NEW USE OF WASTE STEAM.—A manufacturer, who has a steam-engine, which discharges much waste steam, conceived the idea of using it to raise pine apples. The steam was introduced under the root of the plants, and the heat and moisture united, acted so powerfully, that the pine-apples soon ripened; while the body of the plant being exposed all day to the open air, assumes a healthy and agreeable taste, which renders the fruit far superior to those which have been ripened in hot houses.—*Rec. de la Soc. Polytech.*

HOLLOWAY'S PILLS.—AN EXCELLENT REMEDY FOR INDIGESTION, BILIOUS AND LIVER COMPLAINTS.—All painful and distressing sensations arising from these complaints (which are too well known to sufferers to require a description here of their symptoms) may be easily removed by a few doses of this inestimable medicine; for such is its efficacy, that the most debilitated constitutions are effectually strengthened, and the aversion to motion overcome; thus giving buoyancy to the spirits, creating an appetite, and promoting digestion. At this season, when epidemics are so prevalent, these pills should be taken, as they surpass every other remedy as a preventative of disorders, even of the most malignant kind.—Sold by all druggists, and at Professor Holloway's establishment, 244, Strand, London.

PATENT GALVANISED IRON AND WIRE ROPE WORKS,

MILLWALL, POPLAR.

ANDREW SMITH begs to inform the Mining, Railway, and Shipping interests, that he has obtained a PATENT for an IMPROVED METHOD of GALVANISING IRON, producing a much superior article at a considerable saving in cost—the improved process for galvanising wire rope, adding only £10 per ton instead of £20, under the ordinary processes. The rope is extensively used in camp situations, for mining and railway purposes, and for ships' standing rigging.

GEOLOGY.—Persons wishing to become ACQUAINTED with this interesting BRANCH OF SCIENCE, will find their STUDIES greatly FACILITATED by means of ELEMENTARY COLLECTIONS, which can be had at TWO, FIVE, TEN, TWENTY, or FIFTY GUINEAS each, arranged and sold by

Mr. TENNANT, 149, STRAND, LONDON.

A COLLECTION for FIVE GUINEAS, which will illustrate the recent works on Geology, contains 200 specimens, in a mahogany cabinet, with five trays—viz.:

MINERALS which are the components of rocks, or occasionally imbedded in them—Quartz, agate, calcedony, jasper, garnet, zeolite, hornblende, augite, asbestus, felspar, mica, talc, tourmaline, calcareous spar, fluor, selenite, baryta, strontia, salt, sulphur, plumbago, bitumen, &c.

METALLIC ORES.—Iron, manganese, lead, tin, zinc, copper, antimony, silver, gold, platina, &c.

ROCKS.—Granite, gneiss, mica-slate, clay-slate, porphyry, serpentine, sandstones, limestones, basalt, lavas, &c.

FOSSILS from the Llandeilo, Wenlock, Ludlow, Devonian, carboniferous, lias, oolite, wealden, chalk, plastic clay, London-clay, and crag formations, &c.

Mr. TENNANT gives private instructions in Mineralogy, with a view to facilitate the study of Geology, and of the application of Mineral substances in the Arts, illustrated by an extensive collection of specimens, models, &c.

ASSAYING AND ANALYSIS.—Mr. MITCHELL begs to inform the MANAGERS, &c., of MINES, SMELTING-WORKS, and MANUFACTORIES, that he still continues to CONDUCT ASSAYS and ANALYSES of all PRODUCTS, metallurgical and manufacturing, at his LABORATORY,

23, *HAWLEY-ROAD, KENTISH TOWN, LONDON,*

to which address communications are to be forwarded.—Instruction in all branches of assaying and analysis as usual.

MINING AND GENERAL MUTUAL LIFE ASSURANCE SOCIETY.

Registered Provisionally, under the Act of Parliament, 7 and 8 Vic., c. 110.

Temporary guarantee fund, £100,000,

In 5000 shares, of £20 each.—Deposit £2 per share.—In pursuance of the Registration Act, 2s. per share only will be payable on taking up the shares.

One-tenth of the entire profits of this association to be applied to form a fund, for securing annuities to aged members and their widows and orphans—to the relief of deserving and distressed miners—and towards founding and supporting charitable institutions in connection with mining interests.

PRELIMINARY PROSPECTUS.

As the knowledge of the principle of life insurance has been more and more diffused, and the manifold advantages of the system appreciated, the number of assurance offices has been constantly and rapidly on the increase. Nevertheless, the persons who have hitherto availed themselves of the benefits of this system, are comparatively few in number. Of the 20,000,000 of inhabitants of Great Britain, not more than 120,000 persons have taken out policies on their lives in all offices; so that it may not be too much to say, that the system of life insurance has scarcely passed the first stage of development.

This fact alone is sufficient to demonstrate the ample room existing for the further extension of the system; while the flourishing condition generally of the assurance offices already established, not only proves the soundness of the principles on which they are founded, but affords a guarantee for the like success of additional establishments, having the same objects in view, and conducted with equal prudence and ability.

As life insurance has been thus extended, various sections of the community have been induced to form their own establishments, so that all professions, and several industrial as well as religious classes, have now each their own assurance offices—adapted to the peculiar circumstances of those portions of society with which they are respectively connected, and mainly dependent on them for support.

It is, however, remarkable, that while in the metropolis alone the life assurance companies of all classes and descriptions exceed 100 in number, with engagements computed at upwards of £115,000,000 sterling, those companies do not comprise one emanating from or connected with the MINING interests, which are those of a class that has done more than any other to develope the resources and promote the extension of the commerce of the country. So long, then, as this important and influential section of the community possesses no assurance association, especially identified with its interests, it is manifest that a large void in the system of life insurance remains to be filled up.

The various individuals directly connected with mining operations in this kingdom, are far more numerous than the members of the clerical, medical, and legal professions, which have established among them no less than nine different assurance companies. The persons directly employed in the mining operations of this country are about 243,311 in number; the annual value of the mineral productions is £37,522,000; and it is calculated that the mine proprietors, agents, and those connected immediately or indirectly with mining interests, represent an amount of population, and of fixed property, exceeding those of nearly all the other classes of the kingdom having representative assurance institutions. This wealthy and powerful class, undoubtedly, requires the formation of an establishment bearing its own name, conducted principally by well-known members of its own body, and especially adapted for the extension of the advantages of life insurance among the numerous individuals of which it is composed. For this purpose, the

MINING AND GENERAL MUTUAL LIFE ASSURANCE SOCIETY

is proposed to be established. Its formation is also called for in consequence of the working miners being either excluded from existing offices, or subjected by them to a considerably higher scale of charges in the annual premiums than experience has shown to be necessary. The mining interests possess more than ordinary power and influence to promote all the objects which such an institution is calculated to effect; and, in submitting the present scheme to the public, it has been determined to base the society upon principles which cannot fail to command its countenance and support.

1. By the formation of a fund, to the extent of 1-10th of the profits of the association, to be called the "Miners' Widows and Orphans' Fund," for securing annuities for old age to members insured for the whole term of life, and for constituting a perpetual and increasing provision for deserving and distressed miners and their widows and children, and towards founding and supporting charitable institutions in connection with mining interests.

2. By affording inducements and facilities to working miners to make a provision against the infirmities of old age, sickness, or incapacity for labour, and by assuring small sums at death, on a self-supporting and safe system, free from the objections usually urged against sick societies and mine clubs.

THE CONSTITUTION OF THE SOCIETY.

1. The society to be established on the principle of *mutual* assurance, as being the most economical, and the best and most legitimate mode of individual protection.

2. The interests of the assured to be at the outset protected by a temporary guarantee fund of £100,000, divided into 5000 shares, of £20 each, deposit £2 per share. The experience of well-established offices justifies the expectation that not more than £2 per share will be required to be paid up. On the capital advanced, the shareholders to receive interest at the rate of £5 per cent. per annum; and the capital to be paid off when the shareholders' proportion of the net profits amounts to a sum equal to that originally advanced, and £100 *per cent., by way of bonus.*

3. The affairs of the society to be investigated, and the profits ascertained and apportioned at the end of every five years; and, after such a sum shall have been reserved as shall be deemed amply sufficient to meet all contingencies, and to enter into the average of succeeding years, the profits to be divided as follows:—

Four-fifths of the profits to be apportioned among the members assured for the whole term of life, on the participating scale of premiums, and the amount may either be added to the policy, to increase the sum insured, or may go in reduction of future premiums, at the option of the assured.

Of the remaining one-fifth of the profits, one moiety (or the 1-10th of the entire profits) to be appropriated to the "Miners' Fund," and the residue to be invested as an accumulating fund for the extinction of the paid-up capital; and as soon as such fund shall equal the capital advanced, with £100 per cent. on the whole, by way of bonus, the shareholders to be paid off, and thenceforward the whole of the profits except the 1-10th appropriated to the "Miners' Fund," to be divided among th assured.

THE BUSINESS OF THE SOCIETY.

LIFE ASSURANCE.

1. Assurances on single lives, on joint lives, and on survivorships.
2. Assurances on the lives of persons about to proceed to, or reside in, foreign climates.
3. Tables framed for non-participating policies on a lower scale of premiums.
4. Tables on original data, computed for the express purpose of enabling miners and others to insure against sickness or old age, as well as to secure a provision for their families at death.

ANNUITIES.

5. Immediate annuities to be granted, and deferred annuities to be secured, to commence at any specified age.
6. Reversionary and survivorship annuities to be granted.
7. Tables to be constructed, to enable the operative miner to secure a deferred annuity of £10 and upwards for old age, and an annuity payable to his widow and children after his death.

ENDOWMENTS.

8. Educational and other endowments for children to be granted.

This is the only office identified with the interests of miners, and if they avail themselves of their own institution for the purpose of securing the vast amount of insurances which they may effect or influence, it is obvious that its success must speedily equal that of any assurance company in the kingdom.

In order that the objects of the society may be more successfully carried out, the board of directors will be principally composed of gentlemen connected with mining and the manufacture of metals; and it is believed that the efforts of the members of this numerous and influential class in the establishment of the "Mining and General Mutual Life Assurance Society," will open an extensive field for operation, and prove advantageous to the mining interests.

It is considered that the shares of this society will be regarded as offering a desirable investment to a limited amount, abstracted from all inducements to speculation; and the promoters look to the circulation of this prospectus through private channels for securing that support which they have been in various quarters encouraged to expect.

In the allotment of the shares, preference will be given to applicants connected with mining interests, and a due proportion will be reserved for medical men and mine agents supporting the interests of the company.

On the deposit of £2 per share, 2s. only will be required to be paid on taking up the shares, and the remainder upon the execution of the Deed of Settlement.

Application for shares, in the form annexed, addressed to the provisional directors, may be forwarded to—

Messrs. Watson and Cuel, mine share agents, St. Michael's-alley, Cornhill.
Mr. James Lane, mine share agent, 75, Old Broad-street, City, London.
Mr. Henry Ellery, Truro.
Mr. W. C. Henuah, Liskeard.
Mr. W. E. Cummins, Tavistock.
Mr. Hugh Ebrington Croker, Plymouth; or to the
Office of the *Mining Journal*, 26, Fleet-street, London.

FORM OF APPLICATION FOR SHARES.

To the Provisional Directors of the Mining and General Mutual Life Assurance Society.

GENTLEMEN,—Please to allot me shares, of £20 each, in the above society; and I hereby undertake—provided that I approve of the board of direction when formed—to accept the same, or such less number as may be allotted to me, and to pay the deposit thereon, and to execute the Deed of Settlement, and all other necessary documents, when required.—Dated this of , 1848.

Name in full .....
Profession or business .....
Address .....

PATENT PNEUMATIC APPARATUS for the WORKING OF MINES—for the ASCENT and DESCENT of MINERS INTO PITS—EXTRACTING ORES and WATER—and also for VENTILATION.

The object of this patent is the economy in its application of raising ores and weights; at the same time that it is attended with security to life and economy of time. M. PUIS (the proprietor) having secured a PATENT, is ready to GRANT LICENSES for its USE, at a certain annual rate, or for a fixed sum.

All inquiries will be satisfactorily answered on application, personally or by letter, addressed to M. Puis, 32, Craven-street, Strand; Mr. English, 25, Fleet-street; or to the office of the *Mining Journal*, 26, Fleet-street, London.

*** Any proprietor, or gentleman interested in mining property, can obtain a description of Mr. Puis' invention, on application as above.

REVIVAL OF PASSENGER TRAFFIC ON TURNPIKE ROADS—RESUSCITATION of INNS, INNKEEPERS, and TURNPIKE TRUSTS.

—PROSPECTUSES for raising a LOAN of FIVE THOUSAND POUNDS, in sums of £10 each, payable by instalments, in aid of the above national object, to be attained by means of Sir JAMES C. ANDERSON'S PATENT STEAM-CARRIAGE FOR COMMON ROADS (now rendered thoroughly effective), for which interest, at the rate of 15 per cent. per annum, will be paid half-yearly, and both principal and interest amply secured by mortgage, and without the lenders incurring the justly-dreaded liabilities of joint-stock companies, will be forwarded free (on the receipt of a postage-stamp), on application to Mr. Herbert, solicitor, 8, Heathcote-street, Mecklenburgh-square, London.

*** The line of road selected to commence running the carriages is from Hyde-park Corner to Hounslow, through Kensington, Hammersmith, Brentford, &c.

STEAM TO INDIA AND CHINA, VIA EGYPT.—Regular MONTHLY MAIL (steam conveyance) for PASSENGERS and LIGHT GOODS to CEYLON, MADRAS, CALCUTTA, PENANG, SINGAPORE, and HONG-KONG.

THE PENINSULAR AND ORIENTAL STEAM NAVIGATION COMPANY

BOOK PASSENGERS and RECEIVE GOODS and PARCELS for the ABOVE PORTS by their steamers—starting from Southampton on the 20th; and from Suez on or about the 10th of every month.

For rates of passage-money, plans of the steamers, and to secure passages, apply at the company's offices, No. 122, Leadenhall-street, London.

NOTICE TO SHIPPERS OF GOODS AND PARCELS per PENINSULAR AND ORIENTAL STEAM NAVIGATION COMPANY'S STEAMERS to INDIA and CHINA.—GOODS and PARCELS, sent direct to the company's Parcel-office, at or before 6 P.M. on the 17th of each month, are FORWARDED at less cost to the shipper than when sent through any intermediate channel. Cases must not exceed 112 lbs. weight each for Aden, Ceylon, Madras, Calcutta, and China; and 40 lbs. each case for Bombay. No package for India and China can, under any circumstances, be shipped at Southampton, unless it be cleared through the Custom-house, and placed alongside the steamer by noon on the 19th of each month. Detailed particulars can be obtained on personal application or by writing.—Parcel Department, 122, Leadenhall-street, May 13, 1848.

MEXICAN AND SOUTH AMERICAN COMPANY,

10, New Broad-street Mews, June 20, 1848.—The directors of this company hereby give Notice, that, on Thursday, the 13th July (instead of the 6th), at Two o'clock, they will be ready to RECEIVE, at the company's office, No. 10, New Broad-street Mews, TENDERS for the under-mentioned SHARES in the said company, the call on which (due on the 26th October) has not been paid.

Certificates of Five Shares each.

Nos. 1 to 8, 17, 18, 28, 31 to 35, 38 to 41, 49 to 52, 69 to 72, 73 to 76, 79, 80, 85, 89, 90 to 94, 101, 102, 109 to 112, 124 to 128, 143 to 146, 152, 153 to 157, 160 to 162, 183 to 186, 191 to 194, 196 to 202, 207, 219, 220, 222, 226, 233 to 236, 247 to 266, 268, 283, 296, 307 to 323, 325, 339, 342, 352, 353, 358, 359, 361, 368, 369, 374 to 378, 384 to 427, 429, 430, 451 to 470.—The form of tender may be had at the company's office.

H. W. SCHNEIDER, Managing Director.

CALEDONIAN RAILWAY COMPANY—LOANS ON DEBENTURES.—TENDERS OF LOANS ON DEBENTURE BONDS are now RECEIVED in sums of not less than £500, for any number of years not exceeding five. Interest to be at the rate of 5 per cent. per annum, payable half-yearly, in London, Edinburgh, Glasgow, or in any country bank.

Tenders to be addressed to this office, giving full name and address of lender.—Parties may also communicate with Messrs. Foster and Braithwaite, 68, Old Broad-street, London.

By order, D. RANKINE, Treasurer.

Caledonian Railway Office, Edinburgh, Feb. 25, 1848.

CALEDONIAN RAILWAY COMPANY.—Notice is hereby given, that a SPECIAL GENERAL MEETING of the CALEDONIAN RAILWAY COMPANY will be HELD within Gibb's Royal Hotel, Edinburgh, on Thursday, the 20th day of July inst., at Twelve o'clock noon, to consider and decide upon resolutions which will be submitted to the meeting, for the purpose of raising the sum of £745,180, or any less sum, by the creation of shares, bearing a fixed guaranteed dividend, or interest, of 7 per cent. per annum in perpetuity, to be divided rateably amongst the shareholders of the company, who shall be registered on the 25th day of July inst., in proportion to the nominal amount of the shares held by them, or otherwise to be disposed of as may be determined at the meeting.

By order of the board,

J. W. CODDINGTON, Secretary.

Note.—The proportion of guaranteed shares which will fall to be allotted to the shareholders to raise the sum of £745,180, will be one £10 guaranteed share for each £50 of the nominal amount of shares held by them.

Caledonian Railway Office, 125, George-street, Edinburgh, July 5, 1848.

SHREWSBURY AND BIRMINGHAM RAILWAY COMPANY.—LOANS ON DEBENTURES.—The directors of the SHREWSBURY AND BIRMINGHAM RAILWAY COMPANY are prepared to RECEIVE TENDERS OF LOANS, in sums of not less than £500, to be secured on the company's debentures.

By order, GEORGE KNOX, Secretary.

Offices of the Company, 3, Moorgate-street, London.

RIDER'S RAILWAY BRIDGE.—TO RAILWAY COMPANIES.—A PROSPECTUS of the above newly-invented IRON TRUSS RAILWAY BRIDGE will be FORWARDED, and CONTRACTS entered into, or LICENSES GRANTED for its ERECTION, on application to Mr. Moulton, Bradford, Wilts.

IMPORTANT TO RAILWAY AND STEAM NAVIGATION COMPANIES, MANUFACTURERS, AND ENGINEERS.

W. BROTHERTON AND CO.'S

PATENT LUBRICATING FLUID (or Animal Oil) FOR ALL DESCRIPTIONS OF MACHINERY.

W. B. & CO. have the pleasure to state, that the above article is extensively used in her Majesty's Steam Navy, and by several of the principal Steam Navigation and Railway Companies, and is pronounced by them, and by the first practical engineers of the day, to be far better adapted for the purposes of lubrication than any other article hithertc used for such purposes. The Patent Lubricating Fluid is equally applicable for the most intricate and finest pieces of machinery, as for the heaviest bearings of the steam-engine. It is cheaper, much more economical, and cleaner than oils at present in use; is free from smell, and calculated to effect a vast saving in the expenditure of working steam powers.

Further particulars can be had, and testimonials seen, by application to the manufacturers, W. BROTHERTON & CO., Hungerford Wharf, Strand, London.

N.B.—The above article will burn in lamps, and give a light equal to the best sperm oil.

RAILWAY AND OTHER IMPORTANT RECORDS, EFFECTUALLY PROTECTED FROM DAMP AND VERMIN.

Extract from the Appendix to the Second Report of the Commissioners on the Fine Arts.

"In 1839, I superintended the construction of a house, of three stories, on the Lac d'Enghein. The foundation of the building is constantly in water, about 19½ inches below the level of the ground floor. The entire horizontal surface of the external and internal walls was covered at the level of the internal ground floor with a layer of

SEYSSEL ASPHALTE,*

less than half an inch thick, over which coarse sand was spread. Since the above date, no trace of damp has shown itself round the walls of the lower story, which are, for the most part, painted in oil, of a grey stone colour. It is well known that the least moisture produces round spots, darker or lighter, on walls so painted. Yet the pavement of the floor, resting on the soil itself, is only about 2½ inches above the external surface of the soil, and only 19½, at the utmost, above that of the sheet of water. The layer of asphalte having been broken and removed, for the purpose of inserting the sills of two doors, spots, indicating the presence of damp, have been since remarked at the base of the door-posts.

The DIRECTORS of the SEYSSEL ASPHALTE COMPANY have much pleasure in recommending to the notice of ENGINEERS and ARCHITECTS the application of the ASPHALTE of SEYSSEL, as the *only effectual* mode of preventing damp in basement floors, and water from percolating through the ARCHES of a VIADUCT.

The arrangements of this company enable works of any extent to be executed with the greatest promptitude. I. FARRELL, Secretary.

SEYSSEL ASPHALTE DEPOT, STANGATE, LONDON.

ESTABLISHED 1838.

* This method has been adopted at the New Houses of Parliament.

PATENT FLEXIBLE INDIA-RUBBER PIPES AND TUBING, for Railway Companies, Brewers, Distillers, Fire-Engines, Gas Companies, Gardening and Agricultural purposes, &c.

THE PATENT VULCANISED INDIA-RUBBER HOSE-PIPES

are made to stand *hot liquor* and *acids*, without injury—do not become *hard* or *stiff* in any temperature (but are always perfectly flexible); and as they require NO APPLICATION of oil or dressing, are particularly well adapted for *Fire Engines, Pumps, Gas, Beer-Engines, Gardens*, and all purposes where a *perfectly Flexible Pipe* is required.

Made all sizes, from ¼-inch bore upwards, and of any length to order.

Vulcanised India Rubber Garden Hose, fitted with brass-taps, Copper branch and Rose's complete, ready to be attached to pumps, water-butts, or cisterns.

Sole manufacturer, JAMES LYNE HANCOCK,
Goswell Mews, Goswell-road, London.

N.B.—Vulcanised India-Rubber Washers, of all sizes, for joints of hot-water and steam-pipes, and *Vulcanised Sheet Rubber*, any thickness, for all kinds of joints, and other purposes.

PATENT ALKALI COMPANY'S IRON PAINT.—This PAINT, now first offered to the public, is the PRODUCT of a PATENT PROCESS, and possesses VALUABLE and PECULIAR QUALITIES, not otherwise attainable. Its colour is a purple-brown—it is perfectly innocuous—is far more durable than lead paint, and two coats are fully equal to three of any other paint. A single coat will be sufficient to demonstrate this. It dries rapidly, and its durability is very great.

From its chemical composition, it is especially, and above all other paints, adapted to covering iron; also wood, and stuccoed, or brick walls. The peculiar oxidation of the base of this paint makes it impossible that further change should take place in its composition. Its identity with iron secures it from galvanic action, so injurious to the durability of lead paints on iron work. It has been exposed on shipping to the action of sea-water, and the sulphuretted hydrogen, so prevalent in sea-ports and tidal harbours, for three years, without change.

Its *cheapness* and *strength* render it admirably adapted for iron railings, farm buildings, and shipping. It will also cover creosoted timber. Price, by the ton, £20, delivered in London. All orders to be addressed to the offices of the company, 20, Fenchurch-street, London; where testimonials may be seen as to the value of the paint.

EVANS, BROTHERS, Agents.

PUBLIC APPEAL.—RECENT AWFUL EXPLOSION AT HART'S HILL, BETWEEN BRIERLEY-HILL AND DUDLEY.

TEN MEN KILLED.

The CONTRIBUTIONS of the charitable and humane are earnestly solicited in behalf of the RELATIVES, WIDOWS, ORPHANS, &c., of the SUFFERERS from this frightful and distressing ACCIDENT, which took place in consequence of the bursting of a large boiler, at the works of Mr. Jeffries, at Hart's Hill, between Brierley Hill and Dudley; whereby the works were reduced to a mass of ruins, and the following persons were killed or injured—viz.:—

KILLED.

1. JOSEPH POTTER, of Brierley Hill, aged 30, leaving a wife and five children, of whom three are unable to walk—one being a cripple, and the wife having been confined less than a fortnight before.
2. SAMUEL ROGERS, of Merry Hill, aged 43, leaving a wife and seven children, and the wife near her confinement.
3. DAVID NEWTON, of Brierley Hill, aged 45, leaving a wife and eight children, of whom there are five under 12 years of age.
4. EDWARD JEFFRIES, of Brierley Hill, aged 25, single man, but the chief support of his mother, who is a widow, with two children.
5. THOMAS JEFFRIES, of Dudley Port, leaving a wife and one child.
6. WILLIAM WASSALL, of Brierley Hill, single man, but having a sister partly dependent on his earnings.
7. JAMES JEFFRIES, of Stourbridge, single man, his father and mother very destitute, and dependent on his earnings.
8. EDWARD MOORE, of Stourbridge, leaving a widow destitute, no children.
9. THOMAS COLLINS, of Merry Hill, aged 18, his father and mother partly dependent on his earnings.
10. JOHN JEFFRIES, Hart's Hill, wife and one child.

INJURED.

1. AMBROSE CARTWRIGHT, of Brierley Hill, very seriously burnt—his father a cripple—likely to recover.
2. FRANCIS PRICE, of Woodside, unable to work.
3. WILLIAM ROUND, of Woodside, two ribs broken.
4. RUTH LILLEY, of Holly Hall, aged 14, burnt on the head.
5. WILLIAM JONES, Brierley Hill, single man, hurt.
6. JOHN GRIFFIN, of Spring's Mire, burnt badly, having a wife and one child.
7. THOMAS TIMMINS, of Hart's Hill—with two children—burnt—lost his hearing.

A Committee has been appointed, for the Management of this Fund, consisting of the following Gentlemen—viz.:

The Rev. R. HARRIS, M.A., Incumbent, } Joint-Trustees
Mr. JOSEPH MOORE, } Church- } and
Mr. BENJAMIN GREEN, } wardens, } Treasurers.

Mr. RICHARD WILLIAMS	Rev. J. PARSONS
Mr. EDWARD OAKES	Mr. P. T. KEMPSON
Mr. JOHN DAVIS	Mr. JOHN GRIFFITHS
Mr. REUBEN PLANT	Rev. J. ROUGHT
Rev. W. L. COX	Mr. HUDSON
Mr. JOHN PRICE	Mr. S. WILLIAMS
Mr. PETER HARRIS	Mr. JUKES
Mr. JAMES WILLIAMS	Mr. GROVE.
Mr. JAMES WHEELER	Rev. J. HOLLINS
WILLIAM S. WHEELEY, Esq.	Mr. FORD.
JOHN WHEELEY, Esq.	

Contributions will be thankfully received by the Treasurer, or any of the committee; and also at the various banks and principal inns, in Birmingham, Dudley, Wolverhampton, and Stourbridge, where books or subscription cards will be left.

The following Contributions have been received—viz.:

Collections at Brierley Hill Church on Whit-Sunday, including—Sent by			
Lady Ward	£5	0	0
Rev. T. L. Claughton	8	0	0
Joseph Bennitt, Esq.	5	5	0
W. Matthews, Esq.	5	0	0
C. Cartwright, Esq.	2	0	0—52 5 6
Collection at Hart's Hill Chapel			8 10 6
Wm. Robinson, Esq., Dudley			2 2 0
Collection at the Wesleyan Chap., Brierley Hill			12 13 0
Ditto at the Independent Chapel, Brierley Hill			5 0 0
Ditto at Quarry Bank Church			2 7 0
James Foster, Esq.			50 0 0
Messrs. Wheeley & Co., Brettell-lane			20 0 0
Miss Wheeley			5 0 0
Rev. R. Harris			2 2 0
J. H. H. Foley, Esq., M.P.			25 0 0
Messrs. Brown and Freer			5 5 0
Mr. Joseph Moore			5 0 0
Mr. P. T. Kempson			1 1 0
Mr. John Price			2 2 0
Mr. R. Williams			2 2 0
Mr. S. Hudson			1 1 0
Mr. S. Williams			1 1 0
Rev. W. L. Cox			1 1 0
Mr. Peter Harris			2 2 0
Mr. Isaac Kempson			1 1 0
Court of Foresters (2254)			1 0 0
Mr. W. W. Hall			0 10 0
Mr. Newbold			1 1 0
Props. of the *Ten Towns Messenger*			2 0 0
H. P. Parkes, Esq., Dudley			5 0 0
Rev. C. Girdlestone and friends			10 0 0
Richard Smith, Esq., Dudley			£5 0 0
J. G. Bourne, Esq., Dudley			3 3 0
Mr. Paskin			0 5 0
Messrs. Fellowes and Co.			2 2 0
Mr. James Smith			1 0 0
Messrs. Barrows and Hall			5 0 0
Messrs. Evers and Son			5 0 0
Mr. Uhtoff			0 10 0
Mr. Clowes			0 10 0
Mr. Cole			0 5 0
Mr. Thomas Bill			0 5 0
Mr. R. Moore			0 2 6
Rev. W. Dalton			1 0 0
Lily of the Valley Lodge of Odd Fellows, Stourbridge			1 0 0
W. Robins, Esq.			10 0 0
Mr. Silvers			1 1 0
Mr. R. Barney			1 0 0
Mr. J. Wheeler			1 1 0
Mr. J. Williams			1 1 0
W. B. Collis, Esq.			2 2 0
Mr. J. Stevens, sen.			0 5 0
Mr. H. Allden			0 5 0
Mr. Corns			0 2 6
Mr. John Scriven and workmen			0 15 0
Hunt and Arrowsmith, *Worcester Chronicle*			2 0 0
J. Feeney, Esq., *Birming. Journal*			2 2 0
Mr. Ford			1 1 0
Messrs. Plent and Fisher			5 0 0
Aris's Birmingham Gazette			3 3 0
John Roberts, Esq.			2 0 0
Mr. E. Blundell			1 1 0
Mr. John Parkes			1 0 0
The Mining Journal			3 0 0
Messrs. W. and G. Firmstone			10 0 0
Messrs. John Bagnall and Sons			10 0 0
Messrs. G. B. Thorneycroft & Co.			10 0 0
Messrs. P. Williams and Son			10 0 0
A. B. (Wolverhampton)			5 0 0
Messrs. M. and W. Grazebrook			5 0 0
John Barker, Esq.			5 0 0
William Ward, Esq.			5 0 0
Messrs. Blackwell and Co.			5 0 0
Messrs. James Williams & Co.			3 0 0
Messrs. Lee and Bolton			3 0 0
David Jones, Esq.			2 2 0
Mr. Woodcock			2 0 0
Thomas Page, Esq.			2 2 0
Rev. H. A. Cartwright			2 0 0
John Dixon, Esq.			2 0 0
Edward Oakes, Esq.			2 2 0
Messrs. Scholefield, Young, and Stephen			2 2 0
Samuel Kempson, Esq.			2 2 0
Clerks and workmen at Messrs. Kempson's Albion Mill			1 8 6
Rock of Friendship Philanthropic Lodge			1 0 0
Mr. John Parkes			1 0 0
Mr. Thomas Meese			1 0 0
Mr. Josiah Cooper			1 0 0
Messrs. Haines, Brothers			1 0 0
Mr. Fisher Smith			1 0 0
Mr. Thomas Smith			1 0 0
Mr. Thomas Penn			1 0 0
R. H. Smith, Esq.			1 0 0
Mr. James Solly			1 0 0
John Bolton, Esq.			1 0 0
Rev. P. Robinson			1 0 0
Mr. Samuel Dalton			1 0 0
Messrs. Terry and Son			1 0 0
Mr. C. F. Hewitt			1 0 0
Mr. Brookes			1 0 0
John Badley, Esq.			1 0 0
Mr. Lester			1 1 0
Mr. J. R. Tilley			1 0 0
Messrs. J. and W. King			5 0 0
Mr. E. Round			1 0 0
Mr. R. Skidmore			0 10 0
Mr. Barnaby Wilcox			0 10 0
Mr. Shaw			0 10 0
Mr. Joseph Cartwright			0 10 0
Mr. B. Dudley			0 10 0
Mr. Danks, printer			0 10 0
Mr. Granger			0 10 0
Mr Harper, draper			0 10 0
Mr. Darby			0 10 0
Mr. Smith, hotel			0 10 0
Mr. Thompson			0 10 0
Mr. White			0 10 0
Mr. Wartington			0 10 0
Mr. Beasley			0 10 0
Mr. Richards			0 10 0
Collections at Brockmoor Church			2 2 1½
Smaller contributions about			5 0 0

FOURDRINIER'S PATENT SAFETY APPARATUS, for PREVENTING ACCIDENTS IN MINES AND OTHER PLACES, WHEN THE ROPE OR CHAIN BREAKS.

By the ADOPTION of this INVENTION the LIVES of the WORKING MINERS may be PRESERVED, and the PROPERTY of the MINE OWNERS PROTECTED from the serious consequences of either of the following accidents—viz.:

1. From the men, or the load, being precipitated to the bottom of the shaft when the rope or chain breaks: in this case the apparatus is *self-acting*.
2. From either the men, or load, being drawn over the pulley: in this case, also, the apparatus is *self-acting*.
3. From the fearful consequences to men or load of a "whirl," or run: in this case the result is equally *certain*.

A COAL PIT, with the SAFETY APPARATUS ATTACHED to the CAGE, is daily at WORK near BURSLEM, in the STAFFORDSHIRE POTTERIES.

To inspect the apparatus, or to obtain any further information, application may be made to Mr. Edward N. Fourdrinier (the patentee), Cheddleton, near Leek, Staffordshire; or to Mr. Joseph Fourdrinier, 9, College-place, Camden Town, London—who are prepared to GRANT LICENSES for the USE of the PATENT.

TO ENGINEERS AND BOILER-MAKERS.

LAP-WELDED IRON TUBES, FOR MARINE AND LOCOMOTIVE STEAM-BOILERS, TUBES FOR STEAM, GAS, AND OTHER PURPOSES, *ALL SORTS OF GAS FITTINGS.*

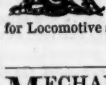
THE BIRMINGHAM PATENT IRON TUBE COMPANY,

42, CAMBRIDGE-STREET, BIRMINGHAM, & SMETHWICK, STAFFORDSHIRE, MANUFACTURE BOILER and GAS TUBES, under an exclusive License from Mr. R. Prosser, the patentee. These tubes are very extensively used in the boilers of marine and locomotive steam-engines in England and on the Continent—are stronger, lighter, cheaper, and more durable than brass or copper tubes, and are warranted not to open in the weld.

42, CAMBRIDGE-STREET, CRESCENT, BIRMINGHAM.

WORKS—SMETHWICK, STAFFORDSHIRE.

LONDON WAREHOUSE—No. 68, UPPER THAMES-STREET.



LAP-WELDED IRON TUBES.

W. H. RICHARDSON, Jun., and CO.,

MANUFACTURE every description of WROUGHT-IRON TUBES, for Locomotive and Marine Boilers, Gas, Steam, and other purposes.

PATENT TUBE WORKS,

DARLASTON, STAFFORDSHIRE.

MECHANICS' MAGAZINE.—Just published, Vol. XLVIII., complete, price, cloth and lettered, 7s.; published also in weekly Nos., price 3d.—stamped, 4d.—"The *Mechanics' Magazine* has conferred lasting advantages on the manufactures of the country."—*Report of Select Committee of the House of Commons on the Arts of Design.*

Mechanics' Magazine, Patent and Designs Registration Office, 166, Fleet-street.

London:—Printed and Published, weekly, by HENRY ENGLISH, at the Office, No. 26, FLEET-STREET, in the city of London, where all Communications and Advertisements are requested to be forwarded—addressed to "the Editor"—post-paid. July 8, 1848.

*** It will at all times save much delay and inconvenience, if communications are directed simply—

To THE EDITOR,
Mining Journal Office,
26, FLEET-STREET, LONDON.